

09/673,840

Sequence Protocol

old format

(1) GENERAL INFORMATION:

(i) APPLICANT:

- (A) NAME: metaGen - Gesellschaft für Genomforschung mbH
- (B) STREET: Ihnestrasse 63
- (C) CITY: Berlin
- (E) COUNTRY: Germany
- (F) POSTAL CODE (ZIP): D-14195
- (G) TELEPHONE: (030)-8413 1673
- (H) FAX: (030)-8413 1674

(ii) TITLE OF INVENTION: Human Nucleic Acid Sequences from Normal Bladder Tissue

(iii) Number of sequences: 365

(iv) COMPUTER-READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: Patentin release #1.0, version #1.25 (EPO)

(2) INFORMATION ON SEQ ID NO. 1:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1722 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

RECEIVED 09/06/90

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

cggttgaagta gatgcacaac agtgtatgct tgaaatcttg gatactgcag gaacggagca 60
 atttacagca atgagggatt tatacatgaa aaatggacaa ggatttgcatt tagtttattc 120
 catcacagca cagtccacat ttaacgattt acaagacctg agagaacaga ttcttcgagt 180

taaagacact gatgatgttc caatgattct tgttggtaat aagtgtgact tggaagatga 240
 aagagttgta gggaagggaac aagggtcaaaa tctagcaaga caatggaaca actgtgcatt 300
 cttagaatct tctgcaaaat caaaaaataaa tgtaaataag atcttttatg acctagtgcg 360
 gcaaattaac agaaaaactc cagtgcctgg gaaggctcgc aaaaagtcatt catgtcagct 420
 gctttaatat actaaatgca ttgtagctct gagccaggct tgaagaactg ttgcccatt 480
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 ggtggtaccc tttaagaggc ggatgaaagc tactatatca gtttgcacat tctaataact 600
 ttocagtatc acaagagaga tttttactta tataatagtc ctagagtttg cagctggtaa 660
 aaccagaggc tacatccagt attactgcta agagacattc ttcattccacc aatgttgtac 720
 atgtatgaaa atggtgtact gtatacttta acatgcccca tactttgtat tggagagtac 780
 aataatgtaa atcctaaaaa caccactatt ttagcataat aaaagaaaagt ccaaagagct 840
 cctatataga ctactccaga taacttcgct tctttgatac ttgtagctta ttgtaatttt 900
 ttttaagaaa ttcaaggcca ttattattgt acaaaaataa cgctttgatt aacacagcta 960
 tatagttttt ttaattttta aaaaacctgt ggagacggtg atctttgtctt taaaacatga 1020
 tagtcctttc agtataatgt cttagattaa agacgttgcc tttaatatct gttgggaagg 1080
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 caatgtttat agtcgtgtgt acagtggggg tctacaacaa gaagtgtata ttttcaaac 1200
 attttttaat gatttaacaa tttttgtaaa tcattttcag gcttctgcag ctgtagattc 1260
 tcactgtgaa tcccttgctt gctcatgcat aagtgtattt gcaataccaa atatacagg 1320
 ttagtatttt tgccgtgttag tgattgtttc acatgtgtaa cgttttggtt gagatgtta 1380
 atggtggacg agtactgtgg atgtgaatgt gggaagtaat tttaatcata tgtaattggt 1440
 cacaaggcct aatttgcagt aactattgct gttttattta acaatgcctt gttgctttgt 1500
 atgcattaat gtttgatgt aaagattgtg tgtctatcca acagggagcc acagtattta 1560
 aattgaccaa cctaattgta caactacttt gaggtggcca atgtaaact aaaagcctta 1620
 attaaagtgg tgcaattttg tataacttag catcagtagt tcaataaatt tggattgcc 1680
 tgcaagggct tgcattataa aaaaaaacaa aaaaaaaaaa aa 1722

(2) INFORMATION ON SEQ ID NO. 2:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1187 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

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ggccaccggc cggctgcaca cgacttcccc ctggggcgggc actccccagc aggactaccc 120
cgaccctggg tcttgaggaa gtgtgagca gcagggaactg tcaccctgcc ctgccgcttc 180
ctcccggtt ccatcccccac ccggggccca attaccctac cttcctgccc gatcagatgc 240
agccgcaagt cccgcgcgtc cattaccaag agctcatgcc acccggttcc tgcagtccag 300
aggagcccaa gccaaagagg ggaagacgat cgtggccccg gaaaaggacc gccacccaca 360
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tgccaaccca cacaggtgag aaaccttacc actgtgactg ggacggctgt ggatggaaat 480
tcgcccgtc agatgaactg accaggcact accgtaaaca cacggggcac cgcccgttcc 540
agtgcacaaa atgcgaccga gcattttcca ggtcggacca cctgcctta cacatgaaga 600
ggcattttta aatcccagac agtggatatg acccacactg ccagaagaga attcagtatt 660
ttttactttt cacactgtct tcccgatgag ggaaggagcc cagccagaaa gcactacaat 720
catggtcaag ttcccaactg agtcatcttg tgagtggata atcaggaaaa atgaggaatc 780
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agccattatt atgatgttag aagaagagga agaaattcag gtacagaaaa ccattgttta1080
atagccta at gatggtgttt gtgagcttgg tcttaaaggt cccaacaagg gagccaaagg1140
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(2) INFORMATION ON SEQ ID NO. 3:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1478 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

"BEE" DATA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

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 agcgccggga tccggacggg gagcaaccgg gccagccgt gccggctgag gaggtccga 180
 ggctacagag ctgcgcggc tggcacacga gcgcctcggc actaaccgag tgttcgagg 240
 ggctgtgagg ggaggcccc gggcgccatt gctggcggtg ggagcggcg ccggtctcag 300
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 cccttgccgg gcagccggg cagagaccat gtttgacaag acgcggctgc cgtacgtggc 480
 cctcgatgtg ctctgcgtgt tgctggctgg attgccttt gcaattctta cttcaaggca 540
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 tattcttgga gaaaccctgt ctgtttactg taaccttttg cactcaaatt cttttatcag 720
 gaataactac atagccacta ttacaaaagc cattggaacc tttttatttg gtgcagctgc 780
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 catatgtcga gggatgcag aaagagttaa ggaaggcagg ttgtccttct attcaggcca 960
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 ttatgtgggc cttctctcag tttctgatta taaacaccac tggagcgatg tgttgactgg1140
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 agaaagaact tcttttaaag aaagaaaaga ggaggactct catacaactc tgcataaaac1260
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 tttcttcctg ggtgtacaag cccttttaaa gaccttctgc tggctgcgat gcctcttgga1440
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(2) INFORMATION ON SEQ ID NO. 4:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 411 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

J05003-0494-957

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

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gccacatttc cgggggttttg cggggccccgc gatgttttcc agagcttttc aagtgggaag 60
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(2) INFORMATION ON SEQ ID NO. 6:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3181 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

FBI/DOJ - 04/05/2000

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

cgggtggggt gggagcaggg ggggacagtg ccccggaac ccggtgggtc acacacacgc 60
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 gccatttaga ttaggaaggt ttttaagatc cgcaatgtgg agcagcagcc actgcacagg 240
 aggaggtgac aaaccatttc caacagcaac acagccacta aaacacaaaa agggggattg 300
 ggcggaaaagt gagagccagc agcaaaaaact acatttttgca acttggttgg gtggatctat 360
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 attaaggtca agcccagaaa gtgataagtg caggaggagaa aagtgcaggt ccattatgta 540
 atagtgcagc caaagggacc aggggagagg cattgccttc tctgccaca gtct . . . 600
 gtgattgtct ttgaatctga atcagccagt ctcatatgct ccaaagtttc ggttcctatg 660
 agcccggggc atgatctgat cccaagaca tgtggagggg cagcctgtgc ctgcctttgt 720
 gtcagaaaaa ggaaaccaca gtgagcctga gagagacggc gatttttcgg ctgagaaggc 780
 agtagttttc aaaacacata gttaaaaaag aaacaaatga aaaaaatttt agaacagtcc 840
 agcaaatgtc tagtcagggt gaattgtgaa attgggtgaa gagcttagga ttctaattct 900
 atgttttttc cttttcacat ttttaaaaga acaatgacaa acaccactt atttttcaag 960
 gttttaaaac agtctacatt gagcatttga aaggcgtgct agaacaagg ctctgatcc1020
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 tccctggtag ttagctgtg tggctttcct tctgaagag tccgtggttg ccctagaacc1140
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 a

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN
(C) ORGAN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

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ccatgatgaa cagcagttac catagtaacc ctgcctacat gaaccagaca gcacagtatc 360
ctatgcagat gcagatggga atgatgggga gccaggccta taccagcag cctatgcagc 420
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tattactttgc tccagggata ggtaaaaaaa aaaaaaaaaa aaaa 1964

5' - 3' direction

(2) INFORMATION ON SEQ ID NO. 8:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1702 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

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ggacacccca ggtatgtgga cgagcagttc ctgtcacgcc tcttcctatt tgtggccctg 60
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aggaaagggg aaaccacat gtgacctga ttttggatg gcttgataga gttccctgaa1200
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tcttcctctc tgtggaatcg aggggaaatt attcttccca ataccttgat ttgattttca1380
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tgttcacctg gtggaacagt tcttgctctg ctttctaggc ttcattccag aaatccagcc1500
tctttctgga gaccccaaag ctggagggag atgggctttc ctctgggcct ctcttcctac1560

tttgccatcc aactgtctcc tggctaacc cagcaagaac caacaaatgg gtagggaagc1620
cccatctaata tggctttttt tcttcaatta tggacgtgca ttgttttggg tgggaacaaa1680
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1702

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"BIBL" 04/04/95

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

gccgcaggct	cccgtgtttc	ccatttcgag	aggagctcct	ggctgctatt	gcaaatcacc	60
aagtccctcat	cattgaaggc	gagacagggt	cagggaagac	caccagatc	ccgcagtatc	120
tctttgagga	gggttataca	aacaagggtg	tgaagattgc	ctgcacccaa	ccccggagag	180
tggctgccat	gagtgtggcc	gcccagtggt	cccgggagat	gggtgtgaag	cttgggaatg	240
aggttggcta	cagcatccgc	tttgaggact	gcacatcaga	gcgaactgtc	ctccgctaca	300
tgacagatgg	gatgcttctc	cgggagttcc	tctctgagcc	tgacctggcg	agttacagcg	360
tggtgatggt	ggatgaggca	cacgaaagga	ccctacacac	agacattctc	tttggattga	420
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gctccaaaat	ccgggagctc	ctgggtgctg	ccatttatgc	caatctgccc	tctgacatgc	780
aggcccgtat	cttccagccc	acaccacctg	gggcacgaaa	ggtggttgtg	gcaacgaaca	840
ttgctgagac	atcactcacc	attgagggca	tcatttatgt	gctggatcca	gggttctgta	900
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aggcctcagc	caatcagcga	gctggcaggg	caggtcgggt	ggctgcaggg	aagtgtcttcc	1020
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gttcagagga	gatcctgaca	gtggctgcc	tgctctctgt	caacaactcc	atcttctacc	1380
gaccaaagga	caaggtcgtc	catgctgaca	atgccctgt	caacttcttt	ctccctggcg	1440
gtgaccacct	ggttctgcta	aatgtttaca	cacagtgggc	tgagagtgg	tactcttccc	1500
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tctttgagca	acagccacgc	tggctgctct	accacgaact	tgtcttgacc	accaaagagt	1800
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ataaggccaa	ggagctagaa	gatccccatg	ctaagaaaaa	gccccaaaaa	ataggcaaaa	1920
cacgaaga	gctagggtaa	gagaaggacg	taaacagaa	ctgacaccag	ctccttttcc	1980
tctatacat	tatttaatac	ctattaaata	aaattatttt	tggaataaag	cttgtgggaa	2040
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(2) INFORMATION ON SEQ ID NO. 12:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2548 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

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gccgcagccc tcattctgcca ccgcagctctg gttggagctg ttgtcttcta tgctcagcga 60
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cccgcgttac gcacaaagcc gccgatcccc ggccctggggg gagcagagcg accaccgccc 180
gggagcagcg cggcgagacg caagggtgcgc cctatgcccc cgcgccccca ccgcccccg 240
cgcgccagcc gaagcgcagc gagagaacgc gccaccgcgg ggcccgggtg cagctagcga 300
ccctctcgcc acctgcgcgc agcccgaggt gagcagtgag cggcgagcgg gagggcagcg 360
aggcgttcgc gggccccctc ctgctgcccc ggcccggccc tcatggcgcc catccgcaag 420
aagctggttg tgggtgggca cggcgcggtg ggcaagacgt gcctgctgat cgtgttcagt 480
aaggacgagt tccccgaggt gtacgtgccc accgtcttcg agaactatgt ggccgacatt 540
gaggtggacg gcaagcaggt ggaggtggcg ctgtgggaca cggcgggcca ggaggactac 600
gacccgctgc ggccgctctc ctaccgggac accgacgtca ttctcatgtg cttctcggtg 660
gacagccccg actcgtctga gaacatcccc gagaagtggg tccccgaggt gaagcacttc 720
tgtcccaatg tgcccatcat cctggtggcc aacaaaaaag acctgcgcag gacgagcatg 780
tccgcacaga gctggcccgc atgaagcagg aaccggtgcg cacggatgac ggccgcgcca 840
tggccgtgcg catccaagcc tacgactacc tcgagtgtc tgccaagacc aaggaaggcg 900
tgcgcgaggt cttcgagacg gccacgcgcg ccgcgctgca gaagcgctac ggctcccaga 960
acggctgcat caactgctgc aagggtgctat gagggcgcg cccgtcgcg ctgccccctgc 1020
cggcacggct cccctctctg gaccagtccc ccgcgagccc ggagaagggg agaccctgt 1080
cccacaagga cccacccggc ctgcctggca tctgtctgct gacgcctctg gcttgcgcca 1140
ggacttggcg tgggcaccgg gcgcccccat ccagtgctct gtgtgcgtcc agctgtgttg 1200
cacaggcctg ggctccccac tgagtgcaca gggctcccctg agcatgcttt tctgaagagc 1260
cgggcctcag agtgtgtggc tgtgtgtctg ttgcactccc ctgcgcccat tttcacccca 1320
ccccgcctc tgatccccgg gggcgagatt ggcgcgggag tgtggccgcg ccccatcaga 1380
tgttgcctc tcaccagcgg gagcttgata tcccttgtct gtaacataga ccccggttac 1440
tgcgggaggg gagggctgct ggggaggtat gggggatgtt atataaatat agatataatt 1500
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15673344 "370604"

(2) INFORMATION ON SEQ ID NO. 13:

(A) LENGTH: 1673 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

accaatgcac	atgtagtaat	caaatgtttg	gggctagata	ttatggtata	caaaaaacat	60
taaaatcatg	tggtttgcaa	gcaaagcaaa	catttttggc	aatgtttgca	aattggccac	120
aaccacaaat	tcaagaaatt	ttttaaaaag	acaaaagcca	gcttacaaag	atttgaccaa	180
taaaacccct	cgagcccaca	gccttatcag	ctggggttga	gggaagactg	gtctaggtgc	240
tgctcctgaa	cttggtctct	gagccatggc	ttcccataga	cactcaggtc	cctccagcta	300
caaggtgggc	accatggcgg	agaagtttga	ctgccactac	tgcagggatc	ccttgcaggg	360
gaagaagtat	gtgcaaaaag	atggccacca	ctgctgcctg	aaatgctttg	acaagttctg	420
tgccaacacc	tgtgtggaat	gccgcaagcc	catcggtgcg	gactccaagg	aggtgcacta	480
taagaaccgc	ttctggcatg	acacctgctt	ccgctgtgcc	aagtgccttc	accccttggc	540
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gtacaagggg	accgtctggc	acaaagactg	cttcacctgt	agtaactgca	agcaagtcac	720
cgggactgga	agcttcttcc	ctaaagggga	ggactttctac	tgcgtgactt	gccatgagac	780
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tgggcagcgt	ttcacccgtg	tggaggacca	gtattactgc	gtggattgct	acaagaactt	960

tgtggccaag	aagtgtgctg	gatgcaagaa	ccccatcact	gggttttgta	aaggctccag1020
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cgtgaatctg	gccaacaagc	gctttgtttt	ccaccaggag	caagtgtatt	gtcccgactg1140
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ccactgagat	gcctctcatg	cctcagctgg	gaccaccgtg	gtagacacac	gacatgcaag1560
agttgcagcg	gctgctccaa	ctcactgctt	caccccgctt	ctgtggagcc	gggagaaggg1620
accctactgg	accatggcat	ggggttaact	ttcctcatca	ggactctggc	cct 1673

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

ggggccaggga	cgccgcgccg	cgcgaggtgg	ctgccctgcg	cggggacact	cagagcccg	60
tgggcgggag	gaaggcgga	tgccccagac	ggtgatcctc	ccggggccctg	cgccctgggg	120
cttcagggtc	tcagggggca	tagacttcaa	ccagcctttg	gtcatcacca	ggattacacc	180
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aaaagacagg	tagtgagcgc	ttcctataac	tcgccaattg	ggctctattc	aactagcaat	540
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aaagcttaag	tctctgcagg	cgtggcacgc	acgcacgcac	ccacccacgc	gcacttacac	1080
gagaagacat	tcattggcttt	gggcagaagg	attgtgcaga	ttgtcaactc	caaattctaaa	1140
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ctgctatgtg	aaaaaaaaacat	acacttagct	atgtttttgca	actctttttt	gggctagcaa	1260
taatgatatt	taaagcaata	atttttttgta	tgtcatactc	cacaattttac	atgtatatatta	1320
cagccatcaa	acacataaac	atcaagatat	ttgaaggact	ctaattgtct	ttccttgaca	1380
agttgatatt	gcaattgtgg	taaatagcaa	ataacaatct	tgtattctaa	cataatctgc	1440
agttgtctgt	atgtgtttta	actattacag	tgcattgttag	ggagaaaattc	cctgaatttct	1500
tttagttttt	tattcaaac	attatgccac	tcgatgcaac	aaacataata	aatacataaa	1560
aqattttaaaa	aataaaaaaaa	aaaaaaaaaaa	aaa			1593

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

cattgttttgc	caaaatccca	ggcagcatgg	acctcagctc	tctctgggta	cttctgcccc	60
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gttgctcgcta	cagcaagagg	tgcccatatt	cctgtctggc	aacaacagaa	tatccaggtc	480
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caaccacttt	ctctgcagtg	gaaagggatc	gccagtggaa	gttcataatg	tgccggatga	600
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ggaaaggggc	cggggacagg	aggggtgtcca	catatgttaa	catcagttgg	atctcctata	720
gaagtttctg	ctgctctctt	tcttctctcc	tgagctggta	actgcaatgc	caacttctct	780
ggcctttctg	actagatata	cactttcta	aaaatccaca	atthaaaccat	gtttctctact	840
tttccatgt	ttcatagcaa	ctgctttata	tgactgatga	tggcttctct	gcacaccaca	900
tatacagtg	gcatgcttac	agccgggctt	ctggagcacc	agctgcagcc	tggctactgc	960
tttttactgc	agaatgaact	gcaagttcag	catagtggag	gggagaggca	gaactggagg	1020
agaggtgcag	tgaaggttct	ctacagctaa	gcctgtttga	atgatacgt	ggttccccac	1080
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gcatgcttag	caatccaagt	gcagagctct	ttgctccagg	agtgaggaga	ctgggaggtg	1200
aaatggggaa	atggaaggtg	ttggaggcag	agctgaaaac	agggttggaa	ggatttctgt	1260
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ccgtgaggat	cactctcaaa	tgagattaaa	aacaaaggaag	cagagaattg	tcagagaatg	1380
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aggagttttga	gtcactgggca	cctagaagcc	tgcccacgat	tcctaggaag	gctggcagac1500
accctggaac	cctggggagc	tactggcaaa	ctctcctgga	ttgggcctga	tttttttggt1560
gggaaaaggct	gcacctggga	cctaactttc	ttctctgtgt	ggctcaggag	ttcttctgca1620
gagatggcgc	tatcttttct	cctcctgtga	tgctctgtc	ccaaccattt	gtactcttca1680
ttacaaaaaga	aataaaaaata	ttaacgttca	ctatcctgaa	aa	1722

(2) INFORMATION ON SEQ ID NO. 18:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1648 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

- (iii) HYPOTHETICAL: NO

- (iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(X1) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

tgaccaagaa	acagggccta	aggatcattt	tctcgatgc	atcacggctc	atcttcgggc	60
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gatcccagcg	gccatgacca	ggagccacag	gcagtgtctga	gccctctcat	agccatcgca	180
ctgaaaatat	cccagattca	tgagagaact	ggccggaggg	gacccactgt	catcacctga	240
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agaacagtgc	cagaatgaaa	ctgaccttaa	gtcccagggtg	ccctgggca	ggcagaagga	660
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ttgtacaaat	cacaatggtg	cactttccaa	aaaatatatc	aatagggtgt	ttcctctctt	900
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gtacagctat	gggccagatg	gtggagggga	gggtggggac	ccctgcccgc	aagcagagtg	1320
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ctcagccagc	acacccagcg	cgtagggacg	gtttgtgtct	gttttgcctc	cttgggaacg	1440
gcacagtcac	tcacctgcc	atlttcggaa	atgacctggg	gcactttgac	tgtttaagcaa	1500
tgcgttattg	ctgtagtcaa	ggttagtgca	agcaaggaaa	cattccagct	aaggtatttg	1560
tttccatttt	ctgtctgtgc	ttctgtcaga	aacttgctag	gacttttagtg	gccaataaaa	1620

aaqaaattcc taatttcaac cttaaaaa

1648

(2) INFORMATION ON SEQ ID NO. 20:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1610 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

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gcgcgctgat tggacgcgtg gggcgaggcg gaggagagcc gtgcgcacgg cgtatgtggg 60
gccgtgtgca gaccgcgctg tggcgaggcg aaggaccctc aaaataaaca gcctctacct 120
tgcgagccgt cttccccagg cctgcgtccg agtctccgcc gctgcggggc cgctccgacg 180
cggaagatct gactgcagcc atgagcagca atgagtgtct caagtgtgga cgatctggcc 240
actgggcccg ggaatgtcct actggtggag gccgtggtcg tggaatgaga agccgtggca 300
gaggtttcca gtttgtttcc tcgtctcttc cagatatttg ttatcgctgt ggtgagtgct 360
gtcatcttgc caaggattgt gatcttcagg aggatgcctg ctataactgc ggtagagggtg 420
gccacattgc caaggactgc aaggagccca agagagagcg agagcaatgc tgctacaact 480
gtggcaaacc aggccatctg gctcgtgact gcgaccatgc agatgagcag aaatgctatt 540
cttgttgaga attcggacac attcaaaaag actgcacca aagtgaagtgc tatagggtgtg 600
gtgaaaactgg tcatgtagcc atcaactgca gcaagacaag tgaagtcaac tgttaccgct 660
gtggcgagtc agggcacctt gcacgggaat gcacaattga ggctacagcc taattatttt 720
cctttgtcgc cctccttttt tctgattgat ggttgtatta ttttctctga atcctcttca 780
ctggccaaaag gttggcagat agaggcaact ccagggccag tgagctttac ttgccgtgta 840
aaaggaggaa aggggtggaa aaaaaccgac tttctgcatt taactacaaa aaaagtttat 900
gttttagttt gtagagggtg tatgtataat gctttgttaa agaaccctct ttccgtgcca 960
ctggtgaata gggattgatg aatgggaaga gttgagtcag accagtaagc ccgtcctggg 1020
ttccttgaac atgttcccat gtaggaggtg aaaccaattc tggaagtgtc tatgaacttc 1080
cataaataac ttttaatttta gtataatgat ggtcttgat tgtctgacct cagtagctat 1140
taaataacat caagtaacat ctgtatcagg ccctacatag aacatacagt tgagtgggag 1200
taaacaacaa gataaacatg cgtgttaatg gctgttcgag agaaatcgga ataaaagcct 1260
aaacaggaac aacttcatca cagtgttgat gttggacaca tagatggtga tggcaaaggt 1320
ttagaacaca ttattttcaa agactaaatc taaaaccag agtaaacatc aatgctcaga 1380
gttagcataa tttggagcta ttcaggaatt gcagagaaat gcattttcac agaaatcaag 1440
atgttatttt tgtatactat atcacttaga caactgtgtt tcatttgctg taatcagttt 1500
ttaaaagtca gatggaaaga gcaactgaag tcctagaaaa tagaaatgta attttaaact 1560
attccaataa agctggagga ggaaggggaa aaaaaaaaaa aaaaaaaaaa 1610

```

(2) INFORMATION ON SEQ ID NO. 21:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1108 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

```

ggagggcgcg ggagagtagg gtgctgtggt ctgagctaga gggatgaagct ggaggacagg 60
aggatgggag tatgcagggt atagactaga gaacaagacc tctgtctccg tagcatcctg 120
ggcgagcagt ctgaatgccg gaatggataa ccgttttgct acagcatttg taattgcttg 180
tgtgcttagc ctcatttcca ccatctacat ggcagcctcc attggcacag acttctggta 240
tgaatatcga agtccagttc aagaaaattc cagtgttttg aataaaaagca tctgggatga 300
attcattagt gatgaggcag atgaaaagac ttataatgat gcactttttc gatacaatgg 360
cacagtggga ttgtggagac ggtgtatcac catacccaaa aacatgcatt ggtatagccc 420
accagaaaag acagagtcac ttgatgtggt cacaaaatgt gtgagtttca cactaactga 480
gcagttcatg gagaaatttg ttgatcccg aaaccacaat agcgggattg atctccttag 540
gacctatctt tggcgttgcc agttcctttt accttttggt agtttaggtt tgatgtgctt 600
tggtgctttg atcggacttt gtgcttgcat ttgccgaagc ttatatccca ccattgccac 660
gggcattctc catctccttg caggctctgtg tacactgggc tcagtaagtt gttatgttgc 720
tggaattgaa ctactccacc agaaactaga gctccctgac aatgtatccg gtgaatttgg 780
atggctcctt tgccctggctt gtgtctctgc tcccttacag ttcattggctt ctgctctctt 840
catctgggct gctcacacca accggaaaga gtacacctta atgaaggcat atcgtgtggc 900
atgagcaaga aactgcctgc ttacaattg ccatttttat ttttttaaaa taatactgat 960
attttcccca cctctcaatt gttttaattt ttaaattggg ggatatacca ttttattatg 1020
gaaaatccat ttaatttata caccattcac cactaaatac ccccttaat accccctaaa 1080
atttaagggg ggttacctta aagcgatg

```

05673547 04934350

(2) INFORMATION ON SEQ ID NO. 22:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 675 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

```

agggaaagag agagagagggc ctagacgaac acaatcacat gttttctttg ctgttctctc 60
cgggatgggc ctgtttttggg gtttgggact ctgaaccgga gcggggttcc ttcgcttgac120
tttgatcctg gtccttaaat gcctttcccc actccccctc cgtgggttca ggggccaaag180
ggccccctcc cagagcacgg gcagcacctg ctctggacc cctgtgtgcc agcctctgca240
gacgcagctg gtgggagggg gcatggattt ggaggtggag aagtcactcc tggtcctcgg300
aggggggtgg ctgtgtgcct agttcagtg gactcgggga ttggtgaggg cggacagggt360
tctgaggcct ccctagcctt ctttgtaaat tcacacgaga tagtcaggg ctttccagcg420
cccagcttgg atgataatcc tcgtgtcccc cactctaagg cctccttgag atttcttttg480
ggtctaccac gtcctctgcc tgtctccagg tggtagagga gatgtggttc ctgtccctct540
cctgggtccc tagggggccc cagggccct ccctgtagct ttagctgacc ccattggtg600
gggtgtgggg tctgtgcgcg tgctcaggta agcttggggg ctccaggtaa gcggtcccga660
agaacggggg gggag                                     675

```

(2) INFORMATION ON SEQ ID NO. 23:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 350 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

105559 "HBB" 2353

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

```

agcagagcaa ggttggttgc gctcctctgg cagaacctcg gctctcagga ggtccttggt 60
ccagggaaca gctgcttctc tgggggctgg ggcttctaac ttccctggca gccctcggc120
actaaccag ctggaaacca ggggaacaaa cggcctggag tgccaaacc ttctgtctal80
ttttttccag aaaaacgggg gcaatggctg ttgaggagcc catttgaggaa gaactggtgc240

ctctaattggg gcaaattgat tctgcagggg gctgcagttg ggcagggaaa attccttcaa300
acaagggggtt ccacccaaac ccaggccccg gcttcaaatt gccagaaaaa 350

```

(2) INFORMATION ON SEQ ID NO. 24:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 746 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

1997-07-27 14:53:53

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

```

ccccccctcc tccggctttt ttttttttat ttaagaaaat ttattttctac ttctacagca 60
gaaatacggg aatggtacag gtttgggcaa atcatacttt atgaaatgga tcctcatacc120
acatcctttt taatacaggc acgttataac ataattcctg gattttcaaa atccagccaa180
cacggatacc tctgctactc tgttttggcc ttcatagctg cttcctcttt cagacgagct240
ttctttttcta agttcaagct tgttaaagtc tctgtctctt gggcagcctt cttgccctca300
ataaccatga agatgcaccc taccaccgtc agggcaatca ttagatagct gatcttcaact360
cgcatcttgt tctttgcagc atcaagcatc tccaacgaga cagtctctgg gatttcatct420
tccttttttga agcgacctga ccatatgagg atctttttct gccaatccgt aggtttgtgt480
aaaggcactc tgttgtaagt gcgggatgga gtcgcgggac tttcctgtgg ttttgtgcaa540
aatccattta ttctcttcaa atcagagctt ctggtaagcc ttagagatga ggaaacatct600
ctttcacata acctaaaaca gcttcctgct gccaggcgca gaccgctgag gctccccatg660
gccacttgct actccgccga ccagcgaga acttcgccgg ggacggtggc gctggtgagc720
tcaatgtcac ccagcgttgg agtggg 746

```

(2) INFORMATION ON SEQ ID NO. 25:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 217 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

```

agtgtatggc agcaaatgag ggatcataac tctcagttta ttgatgatta ttcatacctca 60
gatggaggag tttatccgtc agccacttca gtttcgtctt aaaacaggag cccacaggac120
ccaaggaact attaaggagg accaggaacc taggtttttt ctttcaaaaa attggcccta180
gcccaataaa tgaaggaaaa aattaggcac cttttttt 217

```

"000000" 000000

(2) INFORMATION ON SEQ ID NO. 26:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 392 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

```

gcggatccgg cgttctccac tgatcttttc caaggctgta cagacatggc ggccggctttt 60
cggaaggcgg ctaagtcccg gcagcgggaa cacagagagc gaagcagtga ctaccgtaaa120
aaacaagaat acctcaaagc tcttcggaag aaggctcttg aaaaaaatcc agatgaattc180
tactacaaaa tgactcgggt taaactccag ggtggagtac atattattaa ggagactaag240
gaagaagtaa cccagaaca actaaagctg atgagaactt caggacgtca aatatatagg300
aagggaagag ggtgcagaag ctaagaaaat cgaagactaa aatcagggcc catctgcggg360
ttgcagggga ggcaggaaaa ggttggtttt tt                               392

```

(2) INFORMATION ON SEQ ID NO. 27:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1796 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

cggctcgaaac	gtattagttg	ttcttaattt	ttttccag	aaaatatgga	tcttttaaga	60
agaatttgag	aagcaaacaa	ttacatgtca	tgtcaagggg	gtagcagatt	ccatttcgtt	120
tcaatattgc	cacaataccc	agggattaat	gctgccacag	gggggcaatc	tttatttgtc	180
ttacttccta	ccccttccct	gttctgcctc	tttaactcag	ttaagttggt	ctggttgggg	240
cctggaanaag	aacccaaaga	aaacctgagt	ggacaggttc	atcttctggaa	tgcagaaaaac	300
atctttaaagg	ctagattttt	agaattattct	caactagcat	tctttccatt	gatttgaagg	360
ggaatttaac	tattataatc	ttcttgatcc	aaaactggat	attaagaact	tccccctta	420
ctaagtttaa	gacttttgtc	atgtggtgag	tcaaataaga	ccattttgat	tgtaaaccat	480
aaaatagtct	agcaagtagc	ccacagttct	ggcctaacag	cagacttgct	gttttcactt	540
ggtatcctgg	agttgggttg	ctaaccctaa	tttctatgat	gttttctaaa	atgaaacttg	600
ataaagtaga	ccaccagctg	caccgtgttt	tctgtaaaag	tattgttagt	aagtggccaa	660
gagacttgag	gaaaatacag	atctttttgtt	taccttggtc	ttgttttaag	tcttaaaaaa	720
ttaaagataa	cattataatg	tagaatacac	atgggacata	gtccttgtaa	gcttcccttg	780
aaaattgttt	caattttttag	gaagctttta	aaagacata	atcttgatac	taaaagacac	840
taattgttac	taattgtaca	aaggtcaagc	caatttttatg	aaacagtcct	acagagtaat	900
atatgtgatg	cagtgttaaga	aggaaaatac	tcattctctaa	cattatggta	ataacattta	960
gcctcttagg	agttggagca	gggggatggg	taattacaga	tttgacagact	atagaaagag	1020
tttcattttt	ttgtgaccct	acagagcttc	aaatttttat	ttcactacct	gctagagcct	1080
actgtgaaat	cactgctcca	tatttgccag	tggaggaaat	gggcatagag	tagagaatag	1140
cttcatatgt	ttacacgttt	gcatagacta	cacacatgtc	atgcgtttat	ggcaggtagc	1200
ttgctatttt	tccccaaggt	ataaatgttg	aagtagggg	ctcatcattc	ccatacacag	1260
aaacacaaaa	cacttttgatc	ataaaccttt	ttcttcagaa	gccaaactaa	cttcgcagaat	1320
aatagagcca	ctggttttaat	gtttccctcaa	gataggtttt	agtgtaagct	agtattctgt	1380
gtgttcgtag	aaatgattca	atacctgcag	ctggtgaatt	aggaattgta	tttggtgcct	1440
tttttatatt	agatgaggtg	caaaaatttt	aatgctagtc	agtatgcacc	accacaggaa	1500
agtttagatc	cattagcact	tgaaactaca	gctttgaaa	cttaggctaa	gttaatttgg	1560
atctgttact	tgattcacct	actgaccttt	tcttttgttt	gaagtgccta	tcagcataat	1620
gagctaagtg	tcatgcatat	ttgtgaagaa	acaccttttt	tggtcccttt	tgggacagag	1680
aggtactcct	tgactctttat	gaatgcaggg	ttactgtttt	gccttatttg	tttaacttaat	1740
ctgactgaaat	aaagcagaca	aagcttgaat	aaaaaaaaaa	aaaaaaaaaa	tcgacg	1796

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN
(C) ORGAN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

```

gaagaaaaag aggagaaaa aggtagggag aaataaaggg aggagagaag cacagtgaag 60
gaaaaaaaaa gtcccttttc gacatcacat tccctgtgtt tccctcagcc tggaaaaacat 120
attaatccca gtgctttttac gcccggaac aaagagacta agccagacta tgggggaaag 180
ggagataaga aggatcctgg aacttttaaag agggaaagag tgagattcag aaatcgccag 240
gactggactt taagggacgt cctgtgtcag cacaagggac tggcacacac agacacacga 300
gaccgaggag aaactgcaga caaatggaga tacaaagact tagaaggaca gtccttttca 360
cctcatccta cttgtccaga aggtaaaaag acacagccag aaagaaaagg catcggtca 420
gctctcagat caggacaggc tgtggatctg tggcggtact ctgaaagctg gagctgcagc 480
acaccccttt tgtattgtct accctcggtt aagagagaga gggctgggag gaaaagtagt 540
tcatttagga aactgtcctg ggaaccaaac ttctgatttc ttttgcaacc ctctgcattc 600
catctctatg agccaccatt ggattacaca atgacatgga gaatgggacc ccgttttact 660
atgctgttgg ccatgtggct agtgtgtgga tcagaacccc acccccatgc cactattaga 720
ggcagccacg gaggacggaa agtgcccttg gtttctccgg acagcagtag gccagctcgg 780
tttctgaggc acactgggag gtctcgcgga attgagagat ccactctgga ggaaccaaac 840
cttcagcctc tccagagaag gaggagtgtg cccgtgttga gactagctcg cccaacagag 900
ccgccagccc gctcggacat caatggggcc gccgtgagac ctgagcaaag accagcagcc 960
aggggctctc cgcgtgagat gatcagagat gaggggctct cagctcggtc aagaatgttg 1020
cgtttccctt cgggggtccag ctctcccaac atccttgcca gctttgcagg gaagaacaga 1080
gtatgggtca tctcagcccc tcatgcctcg gaaggctact accgcctcat gatgagcctg 1140
ctgaaggacg atgtgtactg tgagctggcg gagaggcaca tccaacagat tgtgctcttc 1200
caccaggcag gtgaggaagg aggcaagggt agaaggatca ccagcgaggg ccagatcctg 1260
gagcagcccc tggaccctag cctcatccct aagctgatga gcttcttgaa gctggagaag 1320
ggcaagtttg gcatgggtgt gctgaagaag acgctgcagg tggaggagcg ctatccatat 1380
cccgttaggc tggaaagccat gtacgaggtc atcgaccaag gcccatecgc taggatcgag 1440
aagatcaggc agaagggtct tgtccagaaa tgtaaggcct ctggtgtaga gggccagggt 1500
gtggcgaggg ggaatgacgg tggaggggga gcaggaaggc caagcctggg cagcgagaag 1560
aagaaagagg acccaaggag agcacaagtc ccaccaacca gagagagtcg ggtgaagggt 1620
ctgagaaaaa tggccgccac tgcaccagct ttgccccaac ctccctcaac cccagagacc 1680
accacccctc ctccctgccc agccacaaca gtgactcggc ccacgtcccg ggcggtacaa 1740
gttgcgtcaa gacctatgac caccactgcc tttcccacca cgcagaggcc ctggaccccc 1800
tcacccctcc acaggccccc tacaaccact gaggtgatca ctgccaggag accctcagtt 1860
tcagagaatc tttaccctcc atcccggaag gatcagcaca gggagaggcc acagacaacc 1920
aggaggccca gcaaggccac cagcttgagg agcttcacaa atgcccctcc caccaccatc 1980
tcagaaccca gcacaagggc tgcctggcca ggccgtttcc gggacaaccg catggacagg 2040
cgggaaacat gccaccgaga cccaaatgtg gtgccaggtc ctcccaagcc agcaaaggag 2100
aaacctccca aaaagaaggc ccaggacaaa attcttagta atgagtatga ggagaagtat 2160
gacctcagcc ggccctactg ctctcagctg gaggacgagc tgcaggtggg gaatgttccc 2220
cttaaaaaag caaaggagt ctaaaaagcat gaaaagcttg agaaaccaga gaaggagaag 2280
aaaaaaaaa tgaagaatga gaacgcagac aagttactta agagtgaaga gcaaatgaag 2340

aagtctgaga aaaagagcaa gcaagagaaa gagaagagca agaagaaaaa aggaggtaaa 2400
acagaacagg atggctatca gaaaccacc aacaaacact tcacgcagag tcccaagaag 2460
tcagtggccg acctgctggg gtcccttgaa ggcaaacgaa gactccttct gatcactgct 2520
cccaaggctg agaacaatat gtatgtgcaa caacgtgatg aatatctgga aagtttctgc 2580
aagatggcta ccaggaaaat ctctgtgatc accatcttcg gccctgtcaa caacagcacc 2640
atgaaaatcg accactttca gctagataat gagaagocca tgcgagtggt ggatgatgaa 2700
gacttggtag accagcgtct catcagcgag ctgaggaaaag agtacggaat gacctacaat 2760
gacttcttca tgggtgctaac agatgtggat ctgagagtca agcaatacta tgaggtacca 2820
ataacaatga agtctgtgtt tgatctgata gatactttcc agtcccgaat caaagatatg 2880
gagaaccaga agaggggggt tttttttgaa gggggaaaaa cgcccccc 2927

```

(2) INFORMATION ON SEQ ID NO. 30:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 743 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

```

tccgtggggc tttaaaaaat ggttgtgggt gtgtggggtt ttttgagggt ggagaggatg 60
tgtgaaaatc ttttccaggg aaatgggttc gctgcagagg taaggatgtg ttcctgtatc120
gatctgcaga caccagaag gtgggtgcac actgcatgct tgggggtgcc aagggttcg180
agacctccaa catacttgtc tgaagctcgt gccgtggcc atggccctc tgccaagcct240
gtgtgcgatg ccttggtgc tttagtcaa gaagcctagg ctcaagaagca cagcagcgcc300
atctttccgt ttcaggggtt gtgatgaagg ccaaggaaaa acatttatct ttactat360
acctacgtat aaagttagg ttcattgggt gtgcgaaaca cctttttat cacttttaa420
tttgcacttt atttttttc ttccatgctt gttctctgga catttgggga tgtgagtgt480
agagctggtg agagaggagt caggcgccct tcccaccgat ggtcctggcc tccacctgcc540
ctctcttccc tgctgatca ccgttttcca atttgcoctt cagagaactt aagtcaagga600
gagttgaaat tcacaggcca gggcacatct tttatttatt tcattatgtt ggccaacaga660
acttgattgt aaataataat aaagaaatct gttatatact tttcaaatc caaaaaaag720
tagggagggt aagaaaaagg gcg

```

743

(2) INFORMATION ON SEQ ID NO. 31:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1667 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(vi) ORIGIN:

(vii) OTHER ORIGIN:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

agagccaata	gcatgggggt	tacaaggcaa	agatagtc	tcattcaaca	catattcata	60
gagctccttc	tctgtgccag	acactgttct	ggaagatagc	tagatgaaaa	tctttgcact	120
cacagagctt	acatgccagt	gagtgaagat	cgatgataaa	taaagcaaat	gcacatcatg	180
ttcacatttg	ataagtatat	gccccaaaaat	gaagcggga	aggaggacaa	ggcccatggg	240
tgggtgttga	ggttttttaa	gtgtgggtcag	gaaaggcccc	actgataaag	taacatttga	300
gcaagtctga	aaaagggaag	gggactctttg	gggtcaactt	cgggactcct	gcactttatg	360
taagaatctga	aacctggagt	ctcattttaag	aatgacagc	ataacgttta	gaacatatga	420
actgaatgaa	atggacattt	tttcttaatt	tacgtataaa	tccatatgat	tatacataaa	480
gttctgatgc	attaataaaa	gcagccaaat	agggccaaag	agaaaaataa	caggactctg	540
tactggacct	aacttttatca	ttaattaggt	aatattttcc	tcattttctt	actgctgcca	600
ttttcctcac	cagtattcca	gagatgggtca	tagctcatta	ctctaccacc	aagaacctaa	660
aaggaattag	aatacacgag	aattggccctc	agtgaagagc	ttaaaaattgt	tctcctccta	720
gcaactggact	attgatcatt	accacgtgac	cttggtctcta	ttaactttctg	ttcccaattg	780
ccctctagtg	gtttgaaaat	gttaaaacat	ccctgaaatc	taaatcatat	aatcagaatt	840
ctatagtgtc	ccactctatc	tgtaaagatc	atttggaaga	ctttagactc	tattaatttt	900
aaaaggaata	tttatttagcc	atatgcagaa	tttctaata	tgatattgta	cagcttctaa	960
ttcacttttc	agatcagtg	ttgaaatggc	aattatcagt	gttggaattta	gttccaacta	1020
cttgattttac	aaaaatgtac	atttagagaa	ggttaaaaga	aacagtgaga	aatgtaaaca	1080
ttcaaaaata	taattgaatc	tctcagttgt	gggaataa	atcagagaca	tgcaactgaa	1140
aatgtctcac	cttctcatct	tttttcttaa	ttcataaagt	tatcttgtag	aatttgatga	1200
gacctctcta	gtcatttctca	actggggcgg	tgtgtgcacc	gaatggtgtt	tgagagtgtt	1260
ggggctaggg	cacattttttg	gttgtcacag	caactgggg	ggcatttgc	gcccagtgcc	1320
aggaatagta	acattatgaa	tgccagggac	agtgtgctca	gtaaagtctt	ccatccaaaa	1380
ggggcagggc	acgggtgctc	acgcctgtaa	tcccagcact	ttgggaggcc	aagggtgggc	1440
gatcacctga	tgtcagggg	tgcagaccag	cctggcdaac	atggtgaaac	cctgttgcta	1500
ctaaaaatac	aaaaattggc	ctgggtgtgt	gtcacatgcc	agtaacccca	gctactaggg	1560
aggctgaggc	aggagaatca	tgggtgaaccg	tgaggcagag	gttgcatgta	gctgagattg	1620
caccactaca	ctccagcctg	gatgacagag	tgagacttca	tctcaaa		1667

(2) INFORMATION ON SEQ ID NO. 32:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 249 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

```

cgtggtaggc acttcatcag tgtttactga ttgaaaacat tgttgactgt ggcttctatc 60
agagtgtcta ccttttacag ctctgacct acctcattta atttgctgct tttaatctac120
gggggctgag aatttgtgaa accagtgttg ttagaagtgt atataatctg aatcaataag180
ctctgaatgg gggacaagaa acgctcttat agcacaaaga tgcatggact tcatgacagc240
tcttttggt                                     249

```

(2) INFORMATION ON SEQ ID NO. 33:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 1246 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

```

aatggaaggt taattaccgg ggccacacct gagacggaaa aaaattggga aaacgaaact 60
aaaaatgggt ggggtgaatt tctacccaaa gtccagccgt ggtggctgca ctggcacaga 120
atactaaact gagtgtgact attttcaatg caacaaatga aaaaacaaaa tgtgcctgtt 180
taaagcactc agtagagggc tgatgaaact aatttttttt cctttaagac atgcactctt 240
gagtcctaca gtaactgagt gtttgtttag acagcacaag aaggggtgag agtgcgtctc 300
ctagccttaa tgtggggagg tagtttcagt cactcatcgg ctttcattat tgtgcagaaa 360

tattagaaaa cctcattgat caattttatg tatttgaata tcagcaaatt gaaatttttc 420
ataattatca ttaatttgta accacatcca gtgtcatgct tactccttag agttcagatg 480
aattcttaaa attaaaaaaa aactccatag tactaatttt gtttctttat atagtttgcg 540
tttgatatta gtgcttgcaa ttgtattaaa gtcaaaagct gattttttat gcatacacia 600
gaatgccact ttttctttta tttcatacca ataatttaaa gattgatatg ctaaaaacaa 660
tttgccacagc actaaagcat gagctacttt catctaaacc tgtaaaaaata tgaaagattt 720
ttatatttt tcactgggaa gaaattcttc ctggatgaaa ttacaaatat gtgtagaata 780
tatttaataa aagacttata aaatacctaa ctacaggact taaaatatag attggcgcg 840
agtatataga acaatatctc atataaataa gtttagcctt tataaaaaatg aagttgcagg 900
ctgacattac attctgtact tactaagtgt caacagccct tacaaacatt aaatgtaaat 960
ggtttcaaat ggtcagcgtt gtttaaatgt aatcatgtta ttttattcat tgttaatgct 1020
ttgatgaaaa ggctttatat gcagtagatc tacgaaaata ttgttcatac tgatcagaat 1080
taaatTTGTA tagagcagag ttttaaaatg aatgtaaata gcactaaacg ttttctttct 1140
gcaacctgta cttacagatt ctctctgtaa actaaataaa aaaaaaatga tagtgcaaaa 1200
aaaaaaaaaa aaaaaaagag acggagagag gagaaagagg gcgtgg 1246

```

(2) INFORMATION ON SEQ ID NO. 34:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 215 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

```

gggaagcatt ttgatatga tgcaggaaat ctcttctggt agtcaaaagt tcccaagagg 60
tgctgtatTTT ttaagaaatg gagtttattt aaataatagt taagcttgtg cccatgttgg 120
ccgggcaact tttttcaatg gtgcttatta gaagaagtgt tttcatctgg tcaatttaag 180
gaaataaaac taggaaatgg agaggggggg agaga 215

```

(2) INFORMATION ON SEQ ID NO. 35:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 734 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

```

gctgccgggg gcctgggggt cggcgtcggt ccccggggga tgtggagagc tggcagcatg 60
tcggccgagc tgggagtcgg gtgcgcattg cgggcgggtga acgagcgcgt gcagcaggct120
gtggcgcggc ggccgcggga tctcccagcc atccagcccc ggctagtggc ggtcagcaaa180
accaaacctg cagacatggt gatcgaggcc tatggacatg ggcagcgcac ttttggcgag240
aactacgttc aggaactgct agaaaaagca tcaaattcca aaattctgtc tttgtgtcct300
gagatcaaat ggcaactcat tggccacctc cagaaacaaa atgtcaacaa attgatggct360
gtccccaatc tcttcattgt ggaaacagtg gattctgtga agttggcaga caaagtgaac420
agttcctggc agagaaaagg ttctcctgaa aggttaaagg ttatggtcca gattaacacc480
agcggagaag agagtaaaca tggccttcca ccttcagaga ccatagccat cgtggagcac540
ataaacgcca agtgtcctaa cctggagttt gtggggctga tgaccatagg aagctttggg600
catgatctta gtcaaggacc aaatccagac ttccagctgt tattgtcgct cccggaagag660
actgtggtaa aaagctgaac atccctgctg aacaggttga gctgatcatg ggcattgtccg720
tctgtaaact gcaa                                     734

```

(2) INFORMATION ON SEQ ID NO. 36:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 314 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

```
gctgctgggg agccactgaa ccaaccggag acccgctggt cccacgtgaa gcagctgtcc 60
tggtgtggag gtacagagct agaccagcac tggccctcc agccccctgg tagcctctgc120
tgcaactgaa ctggcagctt ttgccgtgc ctttagctct gcatgtatgc gccctgaagg180
ttctgcctct ctgttttggg atgccttcc cctcctcatg tttggggacc tgcaagggtg240
tgaggcacgt gagggcatcg ccattgcgtat ttacaggcc tctttctctg gactgtcttc300
aaagggatga cttt                                     314
```

(2) INFORMATION ON SEQ ID NO. 37:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 1839 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

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gcgggcgag	gcgagcaac	agagcgccg	ggagtaaggc	ggagtgaag	gaggagcttg	60
atggaagcgt	gcgagaagg	gcgtaactga	tttgaaacc	agaggaaagg	cgctgttttc	120
accgaattag	aatcgcgga	aaatagagaa	gagtttgttt	gaaggtctcg	cgagatcgag	180
tgagtacggc	tgcgaagtt	ggagcgctct	cgcatagac	acagcaacta	ttcagctgcg	240
aggggacggg	agaggtggtg	agcactctcg	cgagatttga	aggagcggcg	gaggccagag	300
ggaggagagg	accggaagtc	cttcatctca	agcatccaat	gctgaaacgg	gcctgatttt	360
ctctaccgga	agcccttttc	cagaggcttg	gaacacggcc	cacctagcag	gaagtccac	420
ctccttgagc	tccgccacc	ttcccgaagt	ttttctgca	cctgtgttag	gctccgtccc	480
ctttccgctt	tttatcccg	taccagaaaa	ggatacattt	agtgcctccc	accagctccc	540
actaaacggc	cttccgctt	cctgtggttg	tggccgctgt	gctgtgggga	gcggccccga	600
cccgggggct	cattcgagcg	acctcggaac	acaatgccag	catggacttt	gcagaccttc	660
cagctctggt	tggggctacc	ttgagccagg	agggcctcca	ggggttcctt	gtggaggctc	720
accagacaa	tgcctgcagc	cccattgcc	caccaccccc	agccccggtc	aatgggtcag	780
tctttatttc	gctgcttcga	agattcgact	gcaactttga	cctcaaggtc	ctaaatgcc	840
agaaggctgg	atatggtgac	gctgtagtac	acaatgtgaa	ttccaatgaa	cttctgaaca	900
tggtgtgaa	tagtgaggaa	atccagcagc	agatctggat	cccgtctgta	tttattgggg	960
agagaagctc	cgagtacctg	cgtgcccctc	ttgtctacga	gaagggggct	gggtgtcttc	1020
tggttcaga	caataccttc	cccttgggct	attacctcat	ccctttcaca	gggattgtgg	1080
gactgctggt	tttgccatg	ggagcagtaa	tgatagctcg	ttgtatccag	caccggaaac	1140
ggctccagcg	gaatcgactt	accaaagagc	aactgaaca	gattcctaca	catgactatc	1200
agaagggaga	ccagtatgat	gtctgtgcca	tttgcttggg	tgaatatgag	gatggggaca	1260
agctgcgggt	actccctgt	gctcatgcct	accacagccg	ctgctgggac	ccctgggtcal	1320
ctcagacccg	gaagacctgc	cccatttgca	agcagcctgt	tcatcggggg	cctggggacg	1380
aagaccaaga	ggaagaaact	caagggcaag	aggaggggtga	tgaaggggag	ccaagggacc	1440
accctgcctc	agaaaggacc	ccacttttgg	gttctagccc	cactcttccc	acctcctttg	1500
gttcccttagc	cccagctccc	cttgtttttc	ctgggccttc	aacagatccc	ccactgtccc	1560
ctccctcttc	ccctgttatc	ctggtctaat	aacccccac	acatacacct	ctggtgacct	1620
atttgcacag	accgtcgtct	tcctccagt	cttctgaggg	ataggggaca	ttccatccca	1680
agcttctccc	ttaccacac	ctatcctttt	gaggggcttt	gggggtgggg	tggggcaagc	1740
agagggactg	ggtcttcact	tcttgggcta	ataaaattgt	ttctttgttg	actaaaaaaa	1800
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa			1839

(2) INFORMATION ON SEQ ID NO. 38:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1931 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

```

cagccgcgcg ccatccctct ttgtgtgctt tggaaagccg cggagctggg ggtggctaca 60
gttgggtgttg ggggcttagg cgagggacgt taccgggaag ttgcaggcgg gaggactott 120
ccccatccag tcacctgaca ggtcacaaac atgtcagaca aaagtgaatt aaaggctgag 180
ttggaacgta agaagcagcg actggcccaa atcagagagg aaaagaagag aaaagaagaa 240
gaaaggaaaa aaaaaaagaa agaccagaag aaggaagctg ttgctcctgt gcaagaagaa 300
tcagatcttg aaaaaaaaaa gagagaagct gaagcattgc ttcaaagcat ggggctaact 360
ccagaatccc ccattgtccc tcttcctatg tctccatcct ccaaactctg gagcactcca 420
agtgaagctg gaagccaaga ctctggagat ggcgccgtgg gatctagacg aggacctatt 480
aaacttggaa tggctaaaaa cacgcaagtc gactttcttc ctcgagaaat tgtcacgtat 540
acaaaggaaa ctgagactcc agttatggct caacccaaag aagatgaaga ggaagatgat 600
gatgtagtgg ctctaaacc acctattgaa cctgaagaag agaaaacttt aaagaaagat 660
gaggaaaatg atagtaaagc tccccctcat gagctgactg aagaagaaaa gcaacaaatc 720
ttgcaactct aggaattttt aagtttcttt gaccattcta caagaattgt agaaagagct 780
ctttctgagc agattaacat cttctttgac tatagtggga gagatttgga agacaaagaa 840
ggagagattc aagcaggtgc taaactgtca ttaaactcag aattttttga cgaacgttgg 900
tcaaagcatc ggggtggttag ttgtttggat tggatcctc agtatccgga gttactcgtg 960
gcttctctata acaacaatga agatgcccct catgagcctg atggtgtggc ccttgatagg 1020
aatatgaaat acaaaaaaac taccacagag tatgtgtttc actgccagtc agctgtgatg 1080
tctgccacat ttgcaaaatt tcatccaaat cttgttgttg gtggtacata ttcaggccaa 1140
attgtgcttt gggataaccg tagcaataaa agaactccag tgcaaagaac tccactgtca 1200
gcagctgcac acacacaccc tgtatattgt gtaaagtgtt ttggaacaca aaatgctcac 1260
aatctgatta gcattctctac tgatggaaaa atttgttcat ggagttctga catgctttcc 1320
catccacagg atagcatgga gttggttcat aaacagtcaa aagcagtagc tgtgacatct 1380
atgtccttcc ctgttgagga tgtcaacaac tttgttgttg ggagtgaaga aggttctgtg 1440
tacacagcat gccgccatgg cagcaaagct ggaatcagtg agatgtttga ggggcacaa 1500

ggaccaatca ctggcatcca ttgtcatgca gctgttggag cagtagactt ctcacatctt 1560
tttgcactt catcgtttga ctggacagta aagctttgga caactaagaa taacaagcct 1620
ttgtattcat ttgaagataa tgcagactat gtttatgatg ttatgtggtc acctaccac 1680
ccagccctgt ttgctgtgtg ggatggcatg gggagatttg atttgtggaa tctcaataat 1740
gacacagagg taccactgc cagcatttct tgtggaggga atcctgctct taatcgtgtg 1800
agatggaccc attctggaag gggaggtggg ttgtggcgga ttctgaagga caagttttgt 1860
tattttgcga tgttgggagg agcagtttgt tgggtcccccc aatgatggat tggcgacggt 1920
tggtccgacc c

```

1931

(2) INFORMATION ON SEQ ID NO. 39:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 294 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

```

agttaccatt gcctttttctg tctcgtgcog gtttttggttt gctgaaaacta gtccaaaaca 60
ggaaatttaa cagacagcca cagccaaaga gtgtcatgtg aattacaaga aatagagccc120
atthagggaa agatagaact agaaaggctt ttcattataa ttccatgttg aacaattgag180
tcatagcttc ttatctttgga ggaaggacac aattcaaagg ggcagtaagg attttgtaaa240
acgtggcacc cataatttac tatggagcaa gtgcccacat ctctaggaca ttaa      294

```

(2) INFORMATION ON SEQ ID NO. 40:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 882 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

FBI/DOJ - 94042959

(A) LIBRARY: cDNA library

tttttttttc	tcattaacaa	agcagtcaat	tccctttatt	tttaaaattt	tatgtacaca	60
tatgaatgat	ctgtataatg	tacattcaat	atagaaagct	ttatatattt	gatagtgtat	120
agaacatttc	acaattacac	tcatctttta	cataacatct	tgacatccat	ttttaaattt	180
ttttgcacaa	gctccttttc	attcaatttg	gtaaagccag	ttatacatat	taatgtgtac	240
tgtgagcttt	cagaaggtta	atgatgtagg	atgccagtga	aggggtgcagg	gacaaaacct	300
aatagttctg	gatggtgggg	ggaggatggc	cacgcagact	tgatgcagga	gacgggaata	360
ttctttcctg	gggaaaagtg	acttagocca	atttttgttg	actgtagctc	agccctacag	420
tcatgctagt	tcaaaaaaaaa	aattacaaaa	actaggaaga	aagttttgtc	tttttgattc	480
acagttttgt	aaacagatat	aaaggaaaca	atgtgcttac	atacaccaag	aaaaaaaaaa	540
ttcttgtgta	cccacttatg	ttgatocaca	gagtgctttc	ttataatgtg	atacaattag	600
gatcactgac	tttttttcct	aaaaatatat	ttatagaaaa	aggaataaca	ctgtcatgaa	660
accaggagaa	aggcagtaag	agtttgcttc	aacgtatcag	ctggaggaat	gtggacttgg	720
cactggcctt	tcagcgttta	ttgtctctcg	tgaatatattc	aagctctgata	gccaaggtcg	780
cctgcctcat	ggtctacagg	aggtggcagg	ttagacatga	ctgatgtaga	tgtactgcgg	840
taaggtagcc	agcaactcca	ggtcctgctt	caqaagctca	ca		882

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 934 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

```

ctcgcgcgcg acacagggag cagcgagcac gcgtttcccg caacccgata ccatcggaca 60
ggatttctcc gccctcagccc aacgggggag gctagtgtca catagtgatt tagatgaaag120

agctattgaa gcttttaaaag aattcaatga agacgggtgca ttggcagttc ttcaacagtt180
taaagacagt gatctctctc atgttcagaa caaaagtgcc tttttatgtg gagtcattgaa240
gacttacagg cagagagaaa aacaagggac caaagtagca gattctagta aaggaccaga300
tgaggcaaaa attaaggcac tcttggaag aacaggctac acacttgatg tgaccactgg360
acagaggaag tatggaggac cacctccaga ttccgtttat tcaggtcagc agccttctgt420
tggcactgag atattttgtg gaaagatccc aagagatcta tttgaggatg aacttgttcc480
attatttgag aaagctggac ctatatggga tcttcgtcta atgatggatc cactcactgg540
tctcaataga ggttatgcgt ttgtcacttt ttgtacaaaa gaagcagctc aggaggctgt600
taaactgtat aataatcatg aaattcgttc tggaaaacat attggtgtct gcattctcagt660
tgccaacaat aggctttttg tgggctctat tcctaagagt aaaaccaagg aacagattct720
tgaagaattt agcaaagtaa cagaggggtc tacagacgtc attttatacc accaaccgga780
tgacaagaaa aaaaacagag gcttttgctt tcttgaatat gaagatcaca aaacagctgc840
ccaggcaagg cgtagggttaa ttgagtggta aagtcaaggt ctgggggggaa tgttggaact900
gtttgaattg ggggtgttcc gcttaggaag gttc                                     934

```

(2) INFORMATION ON SEQ ID NO. 44:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 231 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

```

ctcgtgcgcg tcaattatga gttcctttat ttatttggtga gaaagattag caagtatgac 60
gtatgcaagg aatagaagtt atgtaccgag tggttaaagg ttggggggat atggagatgg120
atgagaggga gctgtctggg aaggctttgc ttcacttgga ttagagtagg gttgcgtgag180
gaaatagggtg tgtagaatga gaatgagggt catgacagcc tctacaaaa c                                     231

```


(2) INFORMATION ON SEQ ID NO. 46:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 240 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual
 ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:
- (vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

cgatcacggtt ttccatgat gtcacgctc agggcgcttc aattatccct cccacaaaag 60
ataggtggcg cgtgtttcag ggtctctcgt ctctctccta cagaaaagaa aaagaaaaaa120
atgtcattag aagaggcgta acacgtcagt ccgtccccag gtttggtgtt cctggagtgg180
ccgaaagaga tcagttctaa cctgctctgc aggaataacg gtcctgcctc ccgacactct240

(2) INFORMATION ON SEQ ID NO. 47:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 228 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual
 ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:
- (vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

```

agagcagatc agagggcaggg ggaaaaagcac gcagaggggag gagctgaaga gctgagaccc 60
ggagccaggg acagcttaat gaagacaaac tgaaggggaa actgagatgc ttagaaagcc120
cagctataca actctaccca gaaatacttc ccttagggaa tgtaaaaagt actactggag180
atggaagagc agaaaaacag ctatgggcag aaggccaagg ggtgatag                228

```

(2) INFORMATION ON SEQ ID NO. 48:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1229 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

EST: 1229

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

```

aaaaaaaaa aaaaaagagt taatctagga gataatgaat ggcctagtag tagataatat 60
atggccccc aagctcttga cttctgtcct tggggaaagc cattttgtta accacactag 120
tgagatttac atgatgctta atggagaaca gagaagatct tgttgcaaaa ggtgtattaa 180
atatttgtgc tgtttctgta tgagattgag aagcttttcc cacctctcac cctatttcc 240
tataaggata tccagagaag ccaaaactgtt ctgtgggttt gggaatggtc atttcccg 300
aaaatgcata tggatcgatg actaaacctg gcccttttct ctgggctgta gtgaagccgc 360
attttcaogc tggctggcag tgtgctgaga gcctcgaatg ctctgcggcg tagtgccctt 420
ctgccctgcc tgacgatgta tcgaaaagat gagagtgaag gagactttgt gcagcaggaa 480
acgggtaggg gaggtgttgg gcagttgtgg gaacttctga gagtattaca gagtggtaga 540
atöggtaaga actctgattt ggacttcgct ttggtggaac tgtgtgccta tacctgcctg 600
tgtgtgtgca agtgtgcagg ttcctttgta tgtatgtgta cgtgtgggaa cctgtgtttg 660
tcatattttt cttcatttca caaaggcttt ttttgaagca gtggcagtat gcctttgttt 720
caagaacaca tgaattctt ttaacaccag attagtgtgt taccctaaat gaacggttct 780
agccctctat taagaaataa agggaccata agcattttgg ctgcttatgg ctgtgtgtta 840
ctacttacaa gagtcttgaa aattatacag aactttgcct tcttttttta atgtcttcca 900
caatgtttgt actgattata accctgtttc ccctcagaga agagctatgg ctcagggatc 960
tgtgttgact ctggcattta gtggctttgt gaaggaaaga aaccattaaa tgacctgaca1020
aaaactgact catgtcttta aagtagttga agccactttt aggaatgtta ctctcggttg1080
cttttgtcta attctaattg gcttaaagcc aagaaaacca tagtataaat cttttttgtg1140
taccctatgg ctagtgtttt aaatgggcag ttccgttgtg gataaagtat ccagtcactt1200
caggtttccg tgggaagggtt ttattgggg 1229

```

(2) INFORMATION ON SEQ ID NO. 50:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 231 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

```

gaggccggga gtggaacccc ctcttttgag aaggttgccct gactcagaga cacagaaacg 60
ggtccaggga tggggagaga tgtggagtga gggaagggtt gcatttgaga aaggaagttc120
gagaacacac tgggacattg taacacattt gaaccatctt ctgatagaaa ggtgttggcc180
tcctaataat gggagggtcag ggccaggtcc tcgggcatag ggagagggtc c 231

```

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

tttggcatca	tttacaattt	catagaatta	ctgtgaaggc	ctttctagtt	gagatggttg	60
ggtatttggg	atttctaattg	ttaaccccag	aagaaggtaa	tttagcttgt	atttatttaa	120
aacccattta	gccccttaact	tatatctggt	agaattccag	tgatcatcct	aataagggtat	180
atttcagaat	aatttttttt	tccttcagaa	taacttagaa	tcagatgcta	taagggtctcc	240
taggagcagt	gtgaaatttc	cgtaaagata	aatttgaatg	ttgtaaccaa	gtttatatta	300
aaccaagagg	ccatttccaa	tatgattttt	tgtttctttt	taacttggtta	agtcacctaa	360
agattacatg	ctagggcttg	agtcattttc	attgtagata	atgatggccc	acacagtcac	420
cttcaactat	ccacataaag	taggcctttcc	gcttttgcca	cggacagtgt	gaccaagata	480
tttccagagt	aaataaccca	ccacaacctt	ggtaatcctt	cttttcttct	taagctccag	540
gaagcgaaag	cagaaggact	cttttcagac	tgccctctgt	agcctacatt	gcagcttttcc	600
aaaacaggca	gctagcactg	ggaaagccca	tgtggtgacc	ccatattttt	ctgaggttct	660
tctttttccat	ggtgttaactt	tattatcaga	aagtaaatc	agaaaaatg	tcttgccctt	720
agcagacaag	aaccacacca	gtttcttgta	aaggtaacgg	atatactggg	attcaggagt	780
gacacagagg	tccagcccca	gaacttgtaa	ggattttggt	tgaacactga	gcagatgcct	840
cctccctgcc	acccatcaca	ctagttaggg	ctggccatga	attctatgcc	agagtcactc	900
ctgcagtcgt	ctaggggatg	gccttcttat	cccactctcg	cacacatccc	agtctagtct	960
ttgccttcac	agagtcctcc	ttgacacccc	tgacttaatg	atagttgctg	ttttggagta	1020
gaattgatca	ggtttaagtc	atcctgctca	ggttgggcat	agtggctcat	gcctgtaatc	1080
tcagcaactt	gggaagccaa	agtgggagga	ttgcttgagc	ccaggagttc	caaaccatcc	1140
tgggcaacag	agggagaccc	tgtctctacc	aagaaaaaaa	aaaaaaaaaa	aaagttaaaa	1200
aaacaattag	ctggacctgg	tgggtgcacac	tcagtaggct	gaggtgaaag	gattccttta	1260
acatgggaga	ctgaagatgc	agtgagccat	gaatcagcaa	ctgcacacca	gtatgagaga	1320
aaaagtggaa	ccctatcaca					1340

(2) INFORMATION ON SEQ ID NO. 52:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 226 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

```

gccagatttc cggggttttg cgggccccgc gatgttttcc agaggttttc aagtgggaag 60
aggagagcga caaggtgaaa atgccccgtg ccggggcgctc cagcggagtc ctgccagctg120
tccggcgggtg ggggtggacgt ctgatttatg aaggtgccca tccacctatc tgagtacctg180
acttgtgagg actgacaact acagcatcag gtacaaagtt gttctt      226

```

(2) INFORMATION ON SEQ ID NO. 53:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 611 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

19950101 09:54:55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

```

gcagctgcag cggcagcagc ggcagcagag gcagcagcag tagccaccac tccgccgagg 60
ccgcaacccc ggctcggcct ccccaggccc cgccgctgcc gcagtcattg ctgctgatgg120
ggtggacgaa cgctcgccct tgctgtcagc atcccactcc ggaaatgtca ctcccaccgc180
cccacgtac ttgcaagaaa gcagccccag agcggagtcc cacctccata tacagccatt240
gccagtccag acgccagtgg tattccagta ataaactgcc gtgtgtgcca atcactaatc300
aatttgatg gcaagcttca ccagcatgtg gttaagtga cagtttgcaa tgaagctacg360
ccaatcaaaa acccccacac aggcaagaaa tatgttagat gcccttgtaa ttgtcttctc420
atgtgtaagg acacatctcg gcgaatagga tgcccaagac ccaactgtag acggataatt480
aaccttgagg cagtaatgct tatttctgaa ggaacaacca gctcagcctg cattgcccac540
tcccacccag aagggtacaa gggctgtgtg ttggggcacg gttggggaac acattccctt600
tgggatggga c

```

611

(2) INFORMATION ON SEQ ID NO. 54:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 689 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

```

gccgaccgga cgcagggggc tggcgggaac gtgaagctcc gcggtgacct atggggccgt 60
tgggcggccg gtagctgttg ctgttggggg accccctcat tcctgccgct gccgtccctg120
ctgcctcatg ggggccatcg gagttcacct gggctgcacc tcagcctgtg tggccgtctal80
taaggatggc cgggctggtg tggttgcaaa tgatgccggt gaccgagtta ctccagctgt240
tgttgcttac tcagaaaatg aagagattgt tggattggca gcaaaacaaa gtagaataag300
aaatatctca aatacagtaa tgaaagtaaa gcagatcctg ggcagaagct ccagtgatcc360
acaagctcag aaatacatcg cggaaagtaa atgttttagtc attgaaaaaa atgggaaatt420
acgatatgaa atagatactg gagaagaaac aaaatttgtt aaccagaaag atgttgccag480
actgatattt agtaaaatga aagaaacggc acattctgta ttgggctcag atgcaaatga540
tgtagttatt actgtcccgt ttgattttgg agaaaagcaa aaaaatgctc ttggagaagc600
agctagagct gctggattta atgttttgcg attaattcac gaaccgtctg cagctcttct660
tgcttatgga gttggacaag actccccta

```

689

(2) INFORMATION ON SEQ ID NO. 55:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 560 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

```

agaaaaatgga cgctgacatc aatgtcacaa aagcggatgt tgaaaaggcc cgacaacaag 60
ctcaaatacg tcaccaaagt gcagaggaca gcaaagcaga ttactcatcc attctccagal20
aattcaacca tgagcagcat gaattattacc atactcacat cccaacatc ttccagaaaa180
tacaagagag cggaggaaaag gaggattgtg agaattgggag agtccatgaa gacatatgca240
gagggttgatc ggcaggtgat cccaatcatt gggaagtgcc tggatggaat agtaaaagca300
gccgaatcaa ttgatcagaa aaatgattca cagctggtta tagaagctta taaatcaggg360
tttgagcctc ctggagacat tgaatttgag gattacactc agccaatgaa gcgcactgtg420
tcagataaca gccttttcaa ttccagagga gaaggcaaac cagacctcaa atttggtggc480
aaatccaaaag gaaagttatg gccgttcac taaaaaata agcttatgtc cttttaacg540
ggggggcccat tcagcttcag                                     560

```

(2) INFORMATION ON SEQ ID NO. 56:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 851 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

```

gaagaagagt aagaaggaca agaaggccaa agctggtctg gagagcgggg ccgagcctgg 60
agatgggggac agtgatacca ccagcaaaaag aggtagaatt ggtttctgag tagtgaaggc120
cacttgaagc tggaggagaa actaaagcct tattgagaaa acatgttata gatccttttg180
ttgctgagag agtggaacat aggtcctaga cagggtgaag agttctggca catttttagct240
gctactttga gacctcgggt atgttacctg gtgtgggtcat cccatcttgt cctgttttaa300
ggatatgggt ggtgaaagat gaaagaggca gagtttatcc caatgacttc tctgtttgag360
ttgggaagcc tcaccttcag acccagtaac tgtccgcagc tgtctgctag tggttgtctt420
aacatcgtag tcctagtctg catTTTTTaa atccccctctg tttaaaagggt ttgtaaaaca480
aaaacaaaaa actaagtctg ctcaagtgaat tgctgtagaa ccctaaataa gtggtagaag540
agtgtcactg aattttgtct ctgaattcag tataactgag ttttgtccat gctggtgtct600
gggttatagg cctgatgggc ctggtagttt tccatcttgt tctggcctag aggtcagtc660
tttgcaactc ctcaaagctt gtgtacagtg ctacactaaa tccatctgac tacttgttcc720
tgtgccctct tgttttaggc ctggtttact tttaaaaaat gaaattgttc attgctggga780
gaagaatggt gtaattttta cttattaaag tcaacttggt aagtttttaa aaaaaaaaaa840
aaaaaaaaa a

```

851

(2) INFORMATION ON SEQ ID NO. 57:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1354 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

103957 103958 103959 103960 103961 103962 103963 103964 103965 103966 103967 103968 103969 103970 103971 103972 103973 103974 103975 103976 103977 103978 103979 103980 103981 103982 103983 103984 103985 103986 103987 103988 103989 103990 103991 103992 103993 103994 103995 103996 103997 103998 103999 104000 104001 104002 104003 104004 104005 104006 104007 104008 104009 104010 104011 104012 104013 104014 104015 104016 104017 104018 104019 104020 104021 104022 104023 104024 104025 104026 104027 104028 104029 104030 104031 104032 104033 104034 104035 104036 104037 104038 104039 104040 104041 104042 104043 104044 104045 104046 104047 104048 104049 104050 104051 104052 104053 104054 104055 104056 104057 104058 104059 104060 104061 104062 104063 104064 104065 104066 104067 104068 104069 104070 104071 104072 104073 104074 104075 104076 104077 104078 104079 104080 104081 104082 104083 104084 104085 104086 104087 104088 104089 104090 104091 104092 104093 104094 104095 104096 104097 104098 104099 104100 104101 104102 104103 104104 104105 104106 104107 104108 104109 104110 104111 104112 104113 104114 104115 104116 104117 104118 104119 104120 104121 104122 104123 104124 104125 104126 104127 104128 104129 104130 104131 104132 104133 104134 104135 104136 104137 104138 104139 104140 104141 104142 104143 104144 104145 104146 104147 104148 104149 104150 104151 104152 104153 104154 104155 104156 104157 104158 104159 104160 104161 104162 104163 104164 104165 104166 104167 104168 104169 104170 104171 104172 104173 104174 104175 104176 104177 104178 104179 104180 104181 104182 104183 104184 104185 104186 104187 104188 104189 104190 104191 104192 104193 104194 104195 104196 104197 104198 104199 104200 104201 104202 104203 104204 104205 104206 104207 104208 104209 104210 104211 104212 104213 104214 104215 104216 104217 104218 104219 104220 104221 104222 104223 104224 104225 104226 104227 104228 104229 104230 104231 104232 104233 104234 104235 104236 104237 104238 104239 104240 104241 104242 104243 104244 104245 104246 104247 104248 104249 104250 104251 104252 104253 104254 104255 104256 104257 104258 104259 104260 104261 104262 104263 104264 104265 104266 104267 104268 104269 104270 104271 104272 104273 104274 104275 104276 104277 104278 104279 104280 104281 104282 104283 104284 104285 104286 104287 104288 104289 104290 104291 104292 104293 104294 104295 104296 104297 104298 104299 104300 104301 104302 104303 104304 104305 104306 104307 104308 104309 104310 104311 104312 104313 104314 104315 104316 104317 104318 104319 104320 104321 104322 104323 104324 104325 104326 104327 104328 104329 104330 104331 104332 104333 104334 104335 104336 104337 104338 104339 104340 104341 104342 104343 104344 104345 104346 104347 104348 104349 104350 104351 104352 104353 104354 104355 104356 104357 104358 104359 104360 104361 104362 104363 104364 104365 104366 104367 104368 104369 104370 104371 104372 104373 104374 104375 104376 104377 104378 104379 104380 104381 104382 104383 104384 104385 104386 104387 104388 104389 104390 104391 104392 104393 104394 104395 104396 104397 104398 104399 104400 104401 104402 104403 104404 104405 104406 104407 104408 104409 104410 104411 104412 104413 104414 104415 104416 104417 104418 104419 104420 104421 104422 104423 104424 104425 104426 104427 104428 104429 104430 104431 104432 104433 104434 104435 104436 104437 104438 104439 104440 104441 104442 104443 104444 104445 104446 104447 104448 104449 104450 104451 104452 104453 104454 104455 104456 104457 104458 104459 104460 104461 104462 104463 104464 104465 104466 104467 104468 104469 104470 104471 104472 104473 104474 104475 104476 104477 104478 104479 104480 104481 104482 104483 104484 104485 104486 104487 104488 104489 104490 104491 104492 104493 104494 104495 104496 104497 104498 104499 104500 104501 104502 104503 104504 104505 104506 104507 104508 104509 104510 104511 104512 104513 104514 104515 104516 104517 104518 104519 104520 104521 104522 104523 104524 104525 104526 104527 104528 104529 104530 104531 104532 104533 104534 104535 104536 104537 104538 104539 104540 104541 104542 104543 104544 104545 104546 104547 104548 104549 104550 104551 104552 104553 104554 104555 104556 104557 104558 104559 104560 104561 104562 104563 104564 104565 104566 104567 104568 104569 104570 104571 104572 104573 104574 104575 104576 104577 104578 104579 104580 104581 104582 104583 104584 104585 104586 104587 104588 104589 104590 104591 104592 104593 104594 104595 104596 104597 104598 104599 104600 104601 104602 104603 104604 104605 104606 104607 104608 104609 104610 104611 104612 104613 104614 104615 104616 104617 104618 104619 104620 104621 104622 104623 104624 104625 104626 104627 104628 104629 104630 104631 104632 104633 104634 104635 104636 104637 104638 104639 104640 104641 104642 104643 104644 104645 104646 104647 104648 104649 104650 104651 104652 104653 104654 104655 104656 104657 104658 104659 104660 104661 104662 104663 104664 104665 104666 104667 104668 104669 104670 104671 104672 104673 104674 104675 104676 104677 104678 104679 104680 104681 104682 104683 104684 104685 104686 104687 104688 104689 104690 104691 104692 104693 104694 104695 104696 104697 104698 104699 104700 104701 104702 104703 104704 104705 104706 104707 104708 104709 104710 104711 104712 104713 104714 104715 104716 104717 104718 104719 104720 104721 104722 104723 104724 104725 104726 104727 104728 104729 104730 104731 104732 104733 104734 104735 104736 104737 104738 104739 104740 104741 104742 104743 104744 104745 104746 104747 104748 104749 104750 104751 104752 104753 104754 104755 104756 104757 104758 104759 104760 104761 104762 104763 104764 104765 104766 104767 104768 104769 104770 104771 104772 104773 104774 104775 104776 104777 104778 104779 104780 104781 104782 104783 104784 104785 104786 104787 104788 104789 104790 104791 104792 104793 104794 104795 104796 104797 104798 104799 104800 104801 104802 104803 104804 104805 104806 104807 104808 104809 104810 104811 104812 104813 104814 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105101 105102 105103 105104 105105 105106 105107 105108 105109 105110 105111 105112 105113 105114 105115 105116 105117 105118 105119 105120 105121 105122 105123 105124 105125 105126 105127 105128 105129 105130 105131 105132 105133 105134 105135 105136 105137 105138 105139 105140 105141 105142 105143 105144 105145 105146 105147 105148 105149 105150 105151 105152 105153 105154 105155 105156 105157 105158 105159 105160 105161 105162 105163 105164 105165 105166 105167 105168 105169 105170 105171 105172 105173 105174 105175 105176 105177 105178 105179 105180 105181 105182 105183 105184 105185 105186 105187 105188 105189 105190 105191 105192 105193 105194 105195 105196 105197 105198 105199 105200 105201 105202 105203 105204 105205 105206 105207 105208 105209 105210 105211 105212 105213 105214 105215 105216 105217 105218 105219 105220 105221 105222 105223 105224 105225 105226 105227 105228 105229 105230 105231 105232 105233 105234 105235 105236 105237 105238 105239 105240 105241 105242 105243 105244 105245 105246 105247 105248 105249 105250 105251 105252 105253 105254 105255 105256 105257 105258 105259 105260 105261 105262 105263 105264 105265 105266 105267 105268 105269 105270 105271 105272 105273 105274 105275 105276 105277 105278 105279 105280 105281 105282 105283 105284 105285 105286 105287 105288 105289 105290 105291 105292 105293 105294 105295 105296 105297 105298 105299 105300 105301 105302 105303 105304 105305 105306 105307 105308 105309 105310 105311 105312 105313 105314 105315 105316 105317 105318 105319 105320 105321 105322 105323 105324 105325 105326 105327 105328 105329 105330 105331 105332 105333 105334 105335 105336 105337 105338 105339 105340 105341 105342 105343 105344 105345 105346 105347 105348 105349 105350 105351 105352 105353 105354 105355 105356 105357 105358 105359 105360 105361 105362 105363 105364 105365 105366 105367 105368 105369 105370 105371 105372 105373 105374 105375 105376 105377 105378 105379 105380 105381 105382 105383 105384 105385 105386 105387 105388 105389 105390 105391 105392 105393 105394 105395 105396 105397 105398 105399 105400 105401 105402 105403 105404 105405 105406 105407 105408 105409 105410 105411 105412 105413 105414 105415 105416 105417 105418 105419 105420 105421 105422 105423 105424 105425 105426 105427 105428 105429 105430 105431 105432 105433 105434 105435 105436 105437 105438 105439 105440 105441 105442 105443 105444 105445 105446 105447 105448 105449 105450 105451 105452 105453 105454 105455 105456 105457 105458 105459 105460 105461 105462 105463 105464 105465 105466 105467 105468 105469 105470 105471 105472 105473 105474 105475 105476 105477 105478 105479 105480 105481 105482 105483 105484 105485 105486 105487 105488 105489 105490 105491 105492 105493 105494 105495 105496 105497 105498 105499 105500 105501 105502 105503 105504 105505 105506 105507 105508 105509 105510 105511 105512 105513 105514 105515 105516 105517 105518 105519 105520 105521 105522 105523 105524 105525 105526 105527 105528 105529 105530 105531 105532 105533 105534 105535 105536 105537 105538 105539 105540 105541 105542 105543 105544 105545 105546 105547 105548 105549 105550 105551 105552 105553 105554 105555 105556 105557 105558 105559 105560 105561 105562 105563 105564 105565 105566 1055

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

cttaccaaca	gcctttctgc	taagttctgt	tttttgata	tttatgactt	ggttcatctt	60
attttttctt	gatttagcag	gagcccttt	ctatttcagt	ttcattttca	gcatagtagc	120
ctttctatac	ttttctata	agacttgggc	aactgatcca	ggcttcacta	aggcttctga	180
agaagaaaag	aaagtgaata	tcatcacccct	tgcagaaact	ggctctctgg	acttcagaac	240
attttgtaca	tcatgtctta	taaggaaagc	attaaggtca	ctccactgcc	atgtatgcaa	300
ctgctgtgtg	gctcgatatg	atcaaacatg	cctgtggact	ggacggtgca	taggttttgg	360
caaccatcac	tattacatat	tcttcttgtt	tttcccttcc	atgggatgtg	gctggattat	420
atatggatct	ttcatctatt	tgtccagtca	ttgtgccaca	acattcaaag	aagatggatt	480
atggacttac	ctcaatcaga	ttgtggcctg	ttcccttggg	gttttatata	tcttgatgct	540
agcaactttc	catttctcat	ggccaacatt	tttattatta	aatcaactct	ttcagattgc	600
ctttctgggc	ctgacctccc	atgagagaat	cagcctgcag	aagcagagca	agcatatgaa	660
acagacgttg	tccctcagga	agacaccata	caatcttggg	ttcatgcaga	acctggcaga	720
tttctttcag	tgtggtctgt	ttggcttggg	gaagccctgt	gtggtagatt	ggacatcaca	780
gtacaccatg	gtctttcacc	cagccaggga	gaaggttctt	cgctcagtat	gaagaaaagc	840
aacccaaaac	tctcaatctg	attttgtttt	gtttatgtcg	atgcctgtga	gtttgaaagt	900
gaagtaaaaga	tttagaattc	acctaaagtc	aaaggaaaac	acgtggtttt	taaagccatt	960
aggtaaaaaa	agttctcaat	aaaggcatta	caatttttta	ggtttagaaa	gatggacttt	1020
tttgataaat	cttggcagac	atctaaaaaa	aaaaccatat	ttttcacaag	aaaatgcaag	1080
ttactttttt	tggaaataat	actcactgat	tatggataaa	atggaatatt	ttcagatact	1140
atattggctg	tttcaaaaaa	gtactattct	ttaaacttgt	aatttttgct	aagttatttg	1200
tctttgttgt	atctataaat	atgtaaaaaa	tattttaaata	gatgtacctg	ttttgctttt	1260
acacttaata	aaaaattttt	ttttgtaaaa	ggaaaaaaaa	aagaagagga	aaaagaagag	1320
aaaggagagg	ggaagaaaga	ggagaaggca	agga			1354

(2) INFORMATION ON SEQ ID NO. 58:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 268 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

```

cgtgatctct cctcagtaaa accaaggtgc atttttcttg acccacctat cttgggggtg 60
attaggagta gagggttgta aatacttaaa atttttttcc tttctgatat aattattgat120
ctccttctag aagtcctgtc gtctttgctg gagaattttt atttaagcat ccttttgtag180
aagaatctct aatgtccttt tttcatccag atotacactt gatgaatcct aaagctattt240

ctacacagtt cctttattca gttttccc                                268

```

(2) INFORMATION ON SEQ ID NO. 59:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 752 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

```

tgacaaaaga aatggaataa tttcaaaaaa gttaagtcct gagaagacaa ccctgaaatc 60
tattttgaaa agaaaaggca ccagtgatat cagtgatgaa tctgatgaca ttgaaatttc120
ttccaagtca agagtaagaa agagagctag ttcattgagg ttaagagaa taaaagaaac180
caaaaaagaa cttcacaatt ctcccaaac aatgaacaaa acaaaccaag tgtatgcagc240
aaatgaggat cataactctc agtttattga tgattattca tcctcagatg agagtttatac300
cgtcagccac ttcagtttct ctaaacagag ccacagacca agaactataa gagacagaac360
tagtttttct tcaaaattgc ctagccataa taagaaaaat agcactttta ttccaagaaa420
accaatgaaa tgttcaaatg aggaaagttg ttaatcaaga gcagtcgtat gaatcaatgg480
ataaattttt agatggcggt caggaagtg cttatattca ctcaaaccag aatgtaattg540
gatcgagcaa agctgaaaat cacatgagcc gatgggcagc acatgacgta tttgagttga600
agcagttttc acagctgaca gctaacatag ctgtttgcag ttctaagaca tataaagaaa660
aagtggatgc agatacattg ccacacacaa agaaaggcca gcaaccgagt gaaggcagca720
tttcacttcc tctttacatt tcaaatcctg ta 752

```

(2) INFORMATION ON SEQ ID NO. 60:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1389 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

FBI/DOJ - 00000000

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

gaactccaag ttagtggatt gcagaatgga aacttggtt ttgcggcact gggtagagttt 60
 tagtttgtgt gtgtcttgct ggggggtggt gatgattgtc tcagcactca cgcactgcac 120
 aagatggcag caggatacag cactgcacaa gatggcagct cctctgcagc ttcctcctca 180
 gctccctcc ttgcacccc acaggttttg cttgtggtt ttgtcatcag taacctactg 240
 cctgagatca tgatctctta aaagatgaga ctctcggaag ggtagattgt atgcgtcagt 300
 gagccttcta tcaccttctg gaacaaagtc acttgaaatc tcttgatgag attaaggagt 360
 ttagtggttac taagaaaatc tgctttgggc cgcagcagtg ctgggtgttc tcagacctga 420
 ctgaggaagt tagctgcggg ctgacctgtg ggctgggtgt tcaggaggaa tccagagaag 480
 tgttcagatg ccccccttg gctcctttct tatcttaatc agctctttaa atagctgccc 540
 atctcctgtg attgcacaa caagcacttt gacatttgca ccttaggaga ggcagatgtt 600
 aaaatggaat ccaaagacca cctaggggcg ggctgggtgg gagatgggag ggccaactgc 660
 gagctgctcc acttctcagc tctccctgc cctgcagccc tgggccagac aaggccagaa 720
 gggttcaggg gcatttgaca tccccctctg gttctcacca ggaaaacatc caaagctttg 780
 gaggaacacg gccctgccc tggtcctta aatgcctgt ctctttgtaa actgatattc 840
 agccagcaat gcctaagact ttgttaagat catttctact gcttttcttt ctgcttcaaa 900
 cacacagttc gtctctgagg aaagtaaaat aaatggaata agagtaaaat gggtaaggag 960
 atatccaaag ctaccagtc ccttgacca gcacagttgg ccgaccctgt tcactccctg 1020
 gctgtcgtg cttctctgtg ctactgaag ggtgagccag gccagtgtt cccagcccc 1080
 tgggcctgg cactacacag tggaaaacag acaagcggcc ccttcccaa atccaagag 1140
 tgtcttgctg cttggtgggt gctcatcgca atgttctgaa ggctccaggg ccactttgtt 1200
 tgtaagtatg atctgggct caaaatacca tagtagctgc ttgataaaat tctaaaaata 1260
 tctggttctc tattatgtaa acactattac agtcaccagt gtgtgaagac tcttgagctt 1320
 ggttctcata tcagagtcac catttttctt cctgtggaat aaaatgcctt gtggacttcc 1380
 caaaaaaaaa

(2) INFORMATION ON SEQ ID NO. 61:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 726 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

EST-3344-33664

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

```

cgtatctgtc cggacggaag caggaagcgg gagcgtagg gccacgcctg cggcgctgct 60
ggttgaggct gtgtgggtgg gggacggggc gaggcgatgg cggagaagtt tgaccacctal20
gaggagcacc tggagaagtt cgtggagaac attcggcagc tcggcatcat cgtcagtgacl80
ttccagccca gcagccaggc cggggtcaac caaaagctga attttattgt tactggctta240
caggatattg acaagtgcag acagcagctt catgatatta ctgtaccgtt agaagttttt300
gaatatatag atcaaggtcg aaatccccag ctctacacca aagagtgcct ggagagggct360
ctagctaaaa atgagcaagt taaaggcaag atcgacacca tgaagaaatt taaaagcctg420
ttgattcaag aacttttctaa agtattttccg gaagacatgg ctaagtatcg aagcatccgg480
ggggaggatc acccgcttc ttaaccagct caccctccct gtgtgaagat cccctgggac540
tgcatgctgg cgtgaggctg ggactgcgag tgctgacgcc accttccctgc tgagggtggga600
ctgggcccctg gacacacccc tcagcccctc tgcctcatt gtttggcctc atgggaccga660
ggggctggag gagaggcgga gtgtgcccaa gggttcaaga ggttgtttgg ggtgaaatgg720
gtttgt

```

726

(2) INFORMATION ON SEQ ID NO. 62:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 681 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

```

ggctgagaaa aatgggggga gacataacac ccacgaatga aaatacagat ttaagagaag 60
gaaccagtaa agtaggagac agatgtgaag gaaatggaaa tgaggcaaga ggacattgga120
agagagaagt ttgtgttcca ggagccagggt ctggagcatc agtgtgaggg agttcaggta180
ggctggggcct gtgcctctag gtagggacaa gggaggctgg gtagccaggg ctgggtgctta240
aaacccctga ggccatgagc tcattggctg cctttgtagc atcctgtctt cttctgtgct300
gcctggtttg atctcatctc acctggatgc aaagggttaag gtgggcatgg gtcttggggcc360
tgacacccac caaggatgac ctgtggactg ccacggatg ctgaacaggg agatgaaagg420
aggtcctctt accatacccc tctgccaaac cccagtagg ccactgttct gactttgttt480
ccagaatata cagaaatcca aaggggctgt tgctgaacag tctgcaggac cagtgcagc540
acctacctgt tgtcccaagg catacaaagg aggcctcaac gctcatgctt ctctaataca600
gccctaccaa gacagacaga aaagggaagg gtagaggaga aggttgaagc tgtggagtta660
gactctgctt cttcctgaa g

```

681

05673644 04952950
 05673644 04952950

(2) INFORMATION ON SEQ ID NO. 63:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1116 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

```

gggccacact gagcagattc tttggtagaa ttttcaactt gagactaaca caagtatttc 60
cttttctgtt cagttctcca aatgacaaga agtctttttg ctcaattgaa ggggaatgga 120
atggtgtgat gtatgcaaaa tatgcaacag gggaaaatac agtctttgta gataccaaga 180
agttgcctat aatcaagaag aaagtggaga agttggaaga tcagaacgag tatgaatccc 240
gcagcctttg gaaggatgtc actttcaact taaaaatcag agacattgat gcagcaactg 300
aagcaaagca caggcttgaa gaaagacaaa gagcagaagc ccgagaaagg aaggagaagg 360
aaattcagtg ggagacaagg ttatttcattg aagatggaga atgctgggtt tatgatgaac 420
cattactgaa acgtcttggt gctgccaaagc attaggttgg aagatgcaaa gtttatacct 480
gatgatcagg gcagtaggca taattcagca acaaacaatc ttcttttggg agaaacctgt 540
tcattccaat cttctaatta cagtggttcc tatctcaggg atactggact ttctgacgca 600
gatgaacaat taaggggaaa agcttccctt ttccctctgt ggcagttacg attttgactt 660
cagtcctgag aaaaacttca ggttttgaaa atcagatgat gtcttctcct tttccaaaca 720
ccacacgttg aaagcattta taaatccaag tctgaaaactc tgcgctctag tactgctgtt 780
aagatacaca acttgtttct tagttcatat aatctcgggg acacacatac gtatacacac 840
acatacatat atataaatat acctgatgcc agattttttt cataaatatt ctgcctactg 900
taaatatggg ttctctgag ttgttttaga aaattagcgc aatgtattaa aatcaagtgt 960
taggaaatth catggtctta cctacaataa cttttatttt ggaattgaac tattattaaa1020
ttgtatctaa tcttgaata cagtttaatt aattattctt agtgcttaag gcttcataaa1080
gtaatttttc caaccttttt tttaaaaaaa aaaaaa 1116

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(2) INFORMATION ON SEQ ID NO. 65:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 806 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:
- (vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

tccaagggct ctttagtcct tcctaagccc cacagtactt tcccgtagtc ctgagggttg 60
 ggacctcctg gggttcttac cttccctccc cattgctgag acagtctgag aagaggctta120
 ggaatttgtc tgtgggagtt tattcatctg tctctcctat ttacctctcc caaaccaggal80
 ttccacttc tcaaacctgc tgtgatctca caactggagg gaggaagtga gctggggggc240
 tcctctccac tggctgcagg aacaggcctc cagggctccc agactgatat tcagactgac300
 aatgatttga caaaggaaat gtatgaagga aaagagaatg tatcatttga acttcaaaga360
 gacttttccc aggaacacaga cttttcagaa gcctctcttc tagagaaaca acaggaagtc420
 cactcagcag gaaatataaa gaaggagaag agcaacacca ttgatggaac agtgaaagat480
 gagacaagcc ccgtggagga gtgttttttt agtcaaagt caaactcata tcagtgtcat540
 accatcactg gagagcagcc ctctgggtgt acaggattgg ggaaatccat cagctttgat600
 acaaaaactg tgaagcatga aataattaat totgaggaaa gacctttcaa atgtgaagaa660
 ttagtagagc cttttagggtg tgactctcaa cttattcaac catcaagaga acaacactga720
 ggaaaagcct tatcagtgtt cggagtgtgg caaagctttc agcattaatg agaaattaat780
 ttggcatcag agacttcaca gtggggg 806

(2) INFORMATION ON SEQ ID NO. 67:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 226 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

```
gcggatccgg cgttctgcac tgatcttttc caaggggtga cagagatggc ggcggggttt 60
cggaaggcgg gtaagtcccg gcagcgggaa cacagagagc gaagccagtg actaccgtaa120
aaaacaaggt acctcaaagg tggtcggaag aaggggtgtg aaaaaaatcc agtgagttct180
actacaaaat gactcgggtt aaactccagg gtgggttaca aattat 226
```

(2) INFORMATION ON SEQ ID NO. 69:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 2042 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

ESTs by assembling and editing

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

gcagccgctcg ccttcgggagc gaagggtacc agcccggcag aagctcggag ctctcgggggt 60
atcgaggagg caggcccgcg ggcgacggg cgagcgggcc gggagccgga gggcgagg 120
agccggcagc agcgcccgcg cgggctccag gcgaggcggt cgacgctcct gaaaacttgc 180
gcgcgcgctc gcgccactgc gcccggagcg atgaagatgg tcgcgccctg gacgcggttc 240
tactccaaca gctgctgctt gtgctgccat gtccgcaccg gcaccatcct gctcggcgctc 300
tggtatctga tcatcaatgc tgtggtactg ttgattttat tgagtgcctt ggctgatccg 360
gatcagtata acttttcaag ttctgaactg ggaggtgact ttgagttcat ggatgatgcc 420
aacatgtgca ttgccattgc gatttctctt ctcatgatcc tgatatgtgc tatggctact 480
taoggagcgt acaagcaacg cgcagctgga tcatccatt cttctgttac cagatctttg 540
aactttgccct gaacatgttg gttgcaatca ctgtgcttat ttatccaaac tccattcagg 600
aatacatacg gcaactgcct cctaattttc cctacagaga tgatgtcatg tcagtgaatc 660
ctacctgttt ggtccttatt attcttctgt ttattagcat tatcttgact ttttaagggtt 720
acttgattag ctgtgttttg aactgctacc gatacatcaa tggtaggaac tccctctgatg 780
tcctggttta tgttaccagc aatgacacta cgggtgctgt acccccgat gatgatgcca 840
ctgtgaatgg tgctgccaag gagccacgcg caccttacgt gtctgcctaa gccttcaagt 900
gggcggagtg agggcagcag cttgactttg cagacatctg agcaatagtt ctgttatttc 960
acttttgcca tgagcctctc tgagcttggt tggctgtgaa atgctacttt ttaaaattta1020
gatgttagat tgaaaactgt agtttttaac atatgctttg ctagaacact gtgatagatt1080
aactgtagaa ttcttctgtt acgattgggg atataacggg cttcactaac cttccctagg1140
cattgaaact tccccaaat ctgatggacc tagaagtctg cttttgtacc tgctggggccc1200
caaagtggg catttttctc tctgttccct ctcttttgaa aatgtaaaat aaaacccaaa1260
atagacaact ttttcttcag ccattccagc atagagaaca aaaccttatg gaaacaggaa1320
tgtcaattgt gtaatcattg ttctaattag gtaaatagaa gtccttatgt atgtgttacal380
agaatttccc ccacaacatc ctttatgact gaagttcaat gacagtttgt gtttggtggt1440
aaaggatttt ctccatggcc tgaattaaga ccattagaaa gcaccaggcc gtgggagcag1500
tgaccatctg ctgactgttc ttgtggatct tgtgtccagg gacatgggggt gacatgcctc1560

gatatgtgta gaggggtggaa tggatgtgtt tggcgctgca tgggatctgg tgcccctctt1620
ctcctggatt cacatcccca ccaggggccc gcttttacta agtgttctgc cctagattgg1680
ttcaaggagg tcatccaact gactttatca agtggaattg ggatatattt gatatacttc1740
tgccatacaa catggaaaag ggttttcttt tccctgcaag ctacatccta ctgctttgaa1800
cttccaagta tgtctagtca ccttttaaaa tgtaaacatt ttcagaaaaa tgaggattgc1860
cttcccttgta tgcgcttttt accttgacta cctgaattgc aagggatttt tatatattca1920
tatgttacaa agtcagcaac tctcctgttg gttcattatt gaatgtgctg taaattaagt1980
cgtttgcaat taaaacaagg tttgcccaaa tccaaaaaaa aaaaaaaaaa aaaatgggtgg2040
cg 2042

209253 209253 209253

(2) INFORMATION ON SEQ ID NO. 72:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2980 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

105550-070000

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

agcagagtta gccagaaatg cctcctgctg ccccagcctt agagagctcc catctcaate 60
 attgagcctg aaggcttcaa gcccaagaat gcaacaagac ccccagccta cattttctcag 120
 ctccccctgga gccagctgat cctgtaacgc tgcctggaggt cagtctgagc taccaagact 180
 gtccctagac aaaggtggag tccccacac tgcccaagac caaatccctc actcaacctg 240
 ctgaggtgtg gatggggaaa cagaggcaaa actgaggcac ctgatgcatt cagcctgctg 300
 tgcagcagtg ccattgactg ccctgatgtt cagagagaaa cgcacacaag gtttgcccat 360
 gagaattggg gagcagatgg ccaagcagat aggttatgtc tgttttctga gtgatgaagt 420
 caggaagccc tgtggctctg gaggccactt gtggttcatt cttttcccat atccttggct 480
 tttagaaatg gttaccttca ggacagtgc gctgcattta tcagagcact attgctaagt 540
 tttcttttct ggcttgtgtt tttctgggac agtttagaat tgggaggcct attctcatag 600
 aacacaaaaa atgatgttca gtgattcatt taacatacac caatgtactc tggctgctgg 660
 ggggacaacc ataagcaaga catgcccagg gtttgccgtg gctccagatc tactccctgt 720
 aggagttcaa ggatcacaca aacggtagta accagggttg tgaatctgag tacacctgg 780
 caaggcttct cttcagactg aagcagcaat tctgccacta ccagcagcaa ccaggacgtc 840
 tgttctttgt gggggccaga tcagaagaga gaggccctg tgacgcccg gctgcttgg 900
 cacaactctg tccaattcaa ggatgtttat cggcctctct tagatcctga gtgagacaaa 960
 tacagaaatg acccattccc tgcccaccag aaactcagag gtgattgggg agactgacac 1020
 aggaaaatga acttaatcaa gagagactgt gatatgtgct aagaagggtg tgaggggagg 1080
 agagatgaat tttccctgga gggatcctag aaagcattgt catattgcca tctccattag 1140
 ctcaatttta aacaactagg gtgctggaag aacctttgtc tgagggtagt tcatagctgg 1200
 aaataacttg aatattttcc agagtctcta aactctcacc tccccaca gatacacatc 1260
 caagctcaca aataggagta gcaattctag gtggtagggt tgtgtacgga acccctggct 1320

 gtctgcatat atctcagaat taccocagga ccattgtccc aaagtctaga gtctttacag 1380
 gtaggcaaaa tttgttttca atgctgtgtc ctgagctgct gtcacaaata cccatcttag 1440
 gatcccatca gcttcccatc ccccaccaga cagccacagt accctcactt tctccctatt 1500
 gttctttcaa atcctgttct caggaaagaa actgccacta attcattcac actaagggtg 1560
 aaatgattga taataggaat gagttacctc tcccacaga catttgtttt taagtatgac 1620
 agagcagggc cttaatccca agggaaaagg ttatggaact ggaggggggt agctttctgg 1680
 gtagaaggag acttcttgaa tttccttaaa acccagtaag agtaagacct gttgtttggg 1740
 aagggtctgct ccaccatcta agagcactgt tttttttttt gttgttgggt ttgttacggt 1800
 ctctgaggga atatatgaaa aatgcatatg cagtgcaat ttgcaaggca gcatttcacc 1860
 gattgtggac tgtattggct aatgtgtttc ctggtcttta gatgcaaac attataaca 1920
 ctatcttacc tcatagtttt ttcaggggtg cttcttgatt agtagggaat tttgaacacc 1980
 tcttttaata cagctagaaa ataaaaacca tttgtaaagc cacatttgca tatgatgcca 2040
 gcctcacgca tttgtatatc tccagaaatt caggtatgcc tcaccaattt gccctcttt 2100
 aataaaatct tgtgttaaaa tttgcatcac gtgccttcc tatgtatgac gaaacaagaa 2160
 acagagattt ccaattgctc ttttgtcttc agacatttag taatataaag tacctatttt 2220
 tatgctgaaa tgtttatata ggtttattaa tagcaagtgc aactaactgg cggcatgccc 2280
 tgcaacacat tttgatatat tagccatgct tccgggtaaa ggcaagcccc aaactcctta 2340
 tcttttgcag tctctctggg atcagtaaaa gaaaaaaaaa ataatgtgct taagaagtgg 2400
 gactgtaaat atgtatatat aactttgtat agcccatgta cctaccttgt atagaaaaat 2460
 aatttttaaa atttgaatgg aagggggtaa aggaggtcat gaagtttttt tgcattttta 2520
 tttaaatgaa ggaattccaa ataactcacc tacagatttt tagcacaaaa atagccattg 2580
 taaagtgtta aaatttacga taagtattct attggggagg aaaggtaact ctgatctcag 2640
 ttacagtttt ttttcccttt ttaatttcatt tattttgggt ttttggtttt tgcagtccta 2700
 tttatctgca gtogtattaa gtocattatg tagaatagg tactacaaaa aaggttatat 2760
 tctgaaagaa aaataactga cattatatat aaccaattaa tttaaagtat tgccatttaa 2820
 attacacact gagagcatgt cctatgcaga catagatttt tctgttcatt tatttttctt 2880
 cattgcagtg gattgatttg ataaatagat gtgttggaatt actacatttg ctgtacatat 2940
 tatttaataa actttattca gaattgcgtg gcaaaaaaaaa 2980

35673543 "333553"

(2) INFORMATION ON SEQ ID NO. 73:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 227 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

```
cagcattgct ccacggcaca gcataaggat agatcccaag tccacagggt ccattttgca 60
ggtcataattc tgatcctagg aaatgtcctt ttcccatagt tgtcctatgc ctttgggggtt120
tagtctatcc caggggtaac tgtggagaaa tcattggttt gagagtcaag agagcattgg180
ttttggagct ttaatccctt tctggttgaa ataagggtgt caacttg 227
```

(2) INFORMATION ON SEQ ID NO. 75:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 773 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"RECEIVED" 01/05/97

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

```

cggaagtgtgta aaggttcctg cctctcctcg gccaggcgga acctctctgc tgggcccggg 60
ggcgcaaaaa gaactttctt tctccgcgcc gaacggtcgc cgcggccaac tgccctcgcccl29
gcctggcagc ctaaccctcc ttctcttctt ctctctccg gcttcgcgcg gccctgcctc180
cctctcgccc ggcggcatcc gcttgctgct gccaccgect cctcatcttc tgcccgcca240
acöggcctgc cccgctgcag tgatgtgcga caaggagttc atgtgggccc tgaaaaacgg300
agacttggat gaggtgaaaag actatgtggc caaggagaa gatgtcaacc ggacactaga360
aggtggaagg aaacctcttc attatgcagc agattgtggg cagcttgaaa tcctggaatt420
tctgctgctg aaaggagcag atattaatgc tccagataaa catcatatta ctctcttct480
gtctgctgtc tatgagggtc atgtttcctg tgtgaaattg cttctgtcaa aggggtgctga540
taagactgtg aaaggcccag atggactgac cgcctttgaa gccactgaca accaggcaat600
caaagctctt ctccagtgat ggatggatgg actgataact ccggaagaat gactctcctg660
tggcctcaca ctgctgcctg tctgtctgtc actctctatc tgccagcttc ttcagctaaa720
tactttaaga ggggtgaggg gagagagaaa ttcataacaa atccgactac cag 773

```

(2) INFORMATION ON SEQ ID NO. 77:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 870 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

```

gaccggcggt ggctactagg agaaggacgt acggctcctgc tagtagagga atatgtcgag 60
tttctctagg ggcggccagc aatggggccac ttttgctaga atatggtatc tcttagatgg120
gaaaatgcag ccacctggca aacttgctgc tatggcatct ataagacttc agggattaca180
taaacctgtg taccatgcac tgagtgactg tggggatcat gttgttataa tgaacacaag240
acacattgca ttttctggaa acaaattgga acaaaaagta tactcttcgc atactggcta300
cccagggtga tttagacaag taacagctgc tcagcttcac ctgagggatc cagtggcaat360
tgtaaaacta gctatttatg gcatgctgcc aaaaaacctt cacagaagaa caatgatgga420
aagggtgcac cttttccag atgagtatat tccagaagat attcttaaga atttagtaga480
ggagcttcct caaccacgaa aaatacctaa acgtctagat gagtacacac aagaagaaat540
agacgccttc ccaagattgt ggactccacc tgaagattat cggctataag agaataagaa600
ttgcagaaaa taacagtga gtgattgaaa ctttcttctg atgagtttct ctaacctaca660
ggatggagta aaacaactgc tacagttcag cacctgtttt atgtgccgaa tcactgtggg720
gaaaggctcag gaagggtgag tccttcaata ggaaattgta attaaaatat aattttatag780
aaccattttt atgtaatctg atttgaatgt tatagttgat aataataaaa tcacttactt840
ggttgactaa aaaaaaaaaa aaagtcgacg 870

```

(2) INFORMATION ON SEQ ID NO. 78:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 237 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

```

ttgtgatcgg ctatccttcc cggatcaaca gcgagcccag cccggtcata tacaaccggc 60
ccgggaacaa cgtgaaactg aactgcatgg ctatggggat ttccaaagct gacatcacgt120

gggagttaac ggataagtcg catctgaagg caggggttca ggctcgtctg tatggaaaca180
gatttcttca accccaggga tcaatgaccc attcagcatg ccacaaagag gggtggc 237

```

(2) INFORMATION ON SEQ ID NO. 79:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 439 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

```

gtttgggaag ttgagatttg gagcgaataa gtagggatct ggcaagagga tcatctacct 60
cagtcattag gatttcttaa taaaaaagag attgtatttt tgagttgggtt attaagattal20
ttaaaattag cccttccttt gaaatatgac atcagctttg ctgttctaaa tttaaaattal80
gttgcttcat cagtagcaca cttccagttt ctataccaag ccagtcttct cagttttccc240
cttaggatgg gacaagtctg ttcagggggg cattctgtaa gggttcagcag ggggtttggg300
agaggattta aggggaaata cagtgggggc agaatgggtt cgggggtaaa ggtaggggac360
aaggagagga gggcgaaagg aggggtggaa ggatgggggc cttacctaga tcgggggatg420
ccgggggggc aaggcaagg                                     439

```

(2) INFORMATION ON SEQ ID NO. 80:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2483 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"EST" 0492255

gcaaaagtct	tcaaactatt	gagaaagagc	catagactga	gtgcaggcac	cagtgcgctc	60
ttattactgt	gtcaattaaa	tgaatgtatt	tgaatgtttg	gatacttacc	tctgaatgta	120
ttttgagtaa	taacttcaag	tgcaaattat	gccatgcata	atttcttttg	tctcatgttt	180
ttccccctt	ttcttttagg	ctttgtcttc	tgagtctata	gaaaaacttc	cagtttttaa	240
caagtcagcc	ttcaaacatt	atcagatgag	ctctgaggct	gatgactgg	gtatcccaag	300
cagggaacca	aagaacctgg	caaaagaagt	ggccatgtga	agagggacac	tcaggacact	360
ttacgggac	aaagtcgggc	tacaccagtg	ctgcttcctg	aatgtttgtg	tgtgaacctc	420
tgtttctctc	aaaaacaaag	acagcaacga	aaactcttta	atcagaacac	tgatccaatg	480
aggaatggag	cttgtttctg	tgaccagga	gaacttagtg	caagactaca	ggagttaaca	540
gatggccagc	tccttatttt	ttaatgtaga	ataactcctg	agtttatatc	aaatcctgaa	600
gaaataagcc	tcagtttttc	atctgttttt	gataagaata	agaaagggag	tgagtgtgaa	660
gatggtggtt	agcagtttca	ctaagactga	tatttttaggc	ctcttgttca	catcaaaaaga	720
tattggtgtc	agaataccag	cattttcctg	ccatgcaaag	gattaaaact	tagttttcac	780
tatgtggtta	caaatatatg	tcaatgtaca	ttttgaacat	atztatgtgc	tatggaagga	840
aatgctgggtg	actaaaataa	ggtttactct	gaaagaggag	gaattttatt	caaagcattc	900
aaacatttta	ttcaagtgtt	tcaaaattca	aagcattgta	ttcaaggttg	cagtgaaggc	960
atcaacttat	gtaaaaactc	agaaggaagg	ctcctctgat	aaaaacacag	ctcctttatt	1020
atgctgcttt	tcttggttcc	tttacacact	aagtaaacac	ttattgtcag	gtgcctagtc	1080
ttgagtgaat	tgttagatgt	gcactgaact	cgggagtgtg	gggattggag	agagagaatt	1140
gccaaagttaa	cagcaaaaaa	atctcttact	tgtcttgtgt	tataaataaa	ttagtagatt	1200
ggaaaaacta	gtgttaggga	aagaaatcac	atgttcagag	cctaattcag	taggaagggc	1260
ttttctctac	cctgaaatga	aggtaatcca	aaggcatcca	ttttctaggc	ttaaaagata	1320
tatttttgat	atattttaatg	atattctcta	cactccagca	ttaatatgtc	tgtttaaaaa	1380
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ttaagcaaat	agcctggacg	taagagattc	tcatgccagc	atgctttcat	ttgtcagttg	1500
ttgtgactga	gagataatga	atgacacctg	aaatgcatat	ggtatTTTTTg	ggagagttaa	1560
ggtataatTT	gaaggtttgg	agaccagttg	ggctgattac	tcttagagaa	gaagaaatgg	1620
aaaaatgaaa	gaaggcagga	aggaaaagaa	ggatatagga	agagagggaa	gcagaaggca	1680
ggcatttttc	tattttcccc	acaaattatt	tcaaaaaaaa	tctgattttt	ctgggatatg	1740
tcatttggcaa	gaggaagaac	tggtgttttg	aaagcagtat	ggattcttta	aatgcctctc	1800
actcttacaa	catagttagg	tttgagataa	taactttacc	cgtgtcaatt	aacattttaa	1860
ctggcatata	gaaaaaaagg	aggatttttc	tgcatgttaa	aataatcagt	atggtttata	1920
tgttgaatTT	gacattttgt	tgtaatttca	tggtggccta	gtgttgttgt	gcttctggta	1980
atggtaatag	aagctcaact	atttttttgt	ggatttcagt	ttttatcatc	agaagtccta	2040
gacagtgaca	tttcttaaatg	gtgggagtc	agctcatgca	tttctgatta	tacaaaacag	2100
tttgacgtag	gttattttgt	atttcagttt	tttactgaaa	tttgagctaa	acattttttac	2160
atgtaaatac	ttgtattttac	caaagattta	aatcagttga	ttaatatt	aactcaaata	2220
ctgtgaacta	tcttttaaaa	actagaaaaa	agaaatgtta	gtatctcaat	tacaccaact	2280
gtgcaaatag	acttttgataa	aatagaaata	atctacattg	gcctttgtga	aatctgggga	2340
agagccttag	gattctagta	gatggatact	gaatactcag	gccacttaa	tttattaatg	2400
tatacattgt	gtttttgtct	ttaatgtatg	tacagagaaa	tgtgataatt	ttttataata	2460
aatatttttt	atgatgataa	aag				2483

(2) INFORMATION ON SEQ ID NO. 82:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 353 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

```

ggtggtgggg gggggggtgt tgggccaaaa gacttcggta tctgacaaca gcatcatcta 60
cctcagtcac tagggtttct taataaaaaa gaggttgat ttttgacttg gttattaagg120
ttattaaaaa tagcccttcc ttgaaatat gacatcagct ttgctgttct aaatttaaaa180
ttagttgctt catcagtacc acacttcag tttctataacc aagccagtct cctcagtttt240
cccattagaa tggacatgtg ctgttcagcg tgtcatgtct gtaatgcttc atgcagagag300
tttggtcata gtattaaaga gaaaatacag tgaggtcaca atgtctccag agc 353

```

(2) INFORMATION ON SEQ ID NO. 83:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1039 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

```

cggggataaac caaacacagc tgtttacggt ttctccctta acccatgctt tcataaaccc 60
cttcggacag cttccccgct caggctttct aaccacacct accccagggg tgccgcattc 120
ctgcactcag aagtctgcag cggctccctca aaaaacttga ttgtgccata aaaatcactg 180
gggatcttgt taatacagct tctaactcaa tagatctggg agatcctgca tttctaacia 240
gctcccaggt aaggcgagg ctgctgggtg gaggaccatg ctgtgagcag cagggcgaga 300

gtgcccaggg ctgatata ttggaaatat cacccttgaa gccatcgctg gccccacct 360
cctgtggact gatgcccag ggattcccac cccacttctg caaccccagg tatccttcat 420
tatccacccc atcccagact cccaccccag ggattgccc tgaagacttt ggcctagcaa 480
attgtgttgg ttatgtgagt gttgttttaa tcagagatgt acatgattgc caatctgcat 540
ttcttaccag tgtgaccaca ctgttacgat gcaattctag ccaaaaaaaaa actttttcct 600
agtcttatgg aaagcaaata tacaatgatt ttcagtaggc ttctggaata gaaacagtgg 660
tttgaagacc ccaactgccac ctttatggac tggccctttt gagtctgaat ccccgccctc 720
tgtcacctga gacccaaccc ctagctgggc caactccagt gaattcacc atttttcttc 780
ttcagaaggc ctttccctgt tgagaccac atattttaac cttttgctcc tatcccattt 840
ttaagaatt agagaataaa ccaggcctgt ttcttttccc ctgaaatccc tgcctctggc 900
ttcctaaacc catcatctaa ggtgacagag cagtgtctgg aataggcatc ttcctttcaa 960
ctttcccaa actggccaca gataggctgg ccatgggaag ggtctttgga tttcggggga 1020
ggcaaacgtg ggggattgt

```

(2) INFORMATION ON SEQ ID NO. 85:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 330 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

"EST" DBE 4959

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:

```

agtgtattca gcaaatgagg gtcagaactt tcagttttatt gatgggttatt cagccgcaga 60
tgagagttta tgcgtcagcc acttcaattt ctgtaaacag aggcacaggc caaggactgt120
aaggggcaga actagttttt cttcaaaatt gcctagggcat aataaggaaa atagcacttt180
tattttcaagg aaaccgatgg aatgttcaaa tgaggaagtt gttaatcaag ggcatcgga240
tgatcaaatg ggtaaatttt aggtggcgtc aaggaggggc ttatattcac tcaaaccgg300
atgttatttg gtcgggcaa ggttgaagg                               330

```

(2) INFORMATION ON SEQ ID NO. 86:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 235 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

```

atttaagtat tttttagttt ttaaaatgtc tttccgggtga gggaaggagc cccagccaga 60
aagcaattca atcatggtca agtttccaac tgatcatct tgtgagtggg taatcaggaa120
aaatgaggat ccaaaagaca aaaatcaaag acagatgggg tctgtgactg gatctttatc180
atccattcta aatccgattg aatattgcgg gcttacaaaa tgccaagggg gtgac       235

```

(2) INFORMATION ON SEQ ID NO. 88:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 866 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

```

caggaccagc ctggccaaca tggcaaaacc ctgtctctac taaaaagtaa aaaaaattag 60
ccgggcatgg tggcttggtg ttgtagtccc acttcagtct aagtagctgg gactacaggc120
acgtgccaca agcccagcta atgtgggtgt tttgttagag atgaggtagg gccatattgc180
ccaggctcgt cttgaacacc ggggctcaag gaatctgccc atcttcgcct cccaaagttc240
tgagatagca ggtgtgagtc atcatgccca gcctccttga agtttactaa caattgggat300
aactgaggga agagaagtga caattccact cagtctatta gaggtctgga tataaggtag360
ccacacaata actctaactt gacttctaac cattctatct tattgatttg gaggtgtct420
cttgccagat tttttgtggc ttgagatgat attttcgaac ccttctttca ctacctttct480
tacccttaat gtgccaagct tgaacagga tttgatttcc tgagctactt gttcgccttc540

tgtgcgtcac caagtaatct ggttcattct tctctcatt catgttattt tcaagtgaaa600
caagacattt tgggggtcaa gtctcttttg gtgtttgtt tttatgtata taaaaatgga660
ttttgtgttc cctttccatg taagtaccaa cttatatgga aactcacaat cataatgtaa720
agaagaaatg aaagcctggt gtattgtact tcaagatgcc tccctgatgt atagaatctc780
cttgtaaaat aaataattgc attgtatatt agtcttccca tcaatattaa ttattaaata840
ttttagaatt tttaaatacc aactat                                     866

```

(2) INFORMATION ON SEQ ID NO. 90:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 846 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

"BDBE" 0702/88

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

```

ctccttggtcc aacggaaaaa acatggaagg gttaagccta aacaaccctc aaacggaact 60
ttatgocaga aaacaactac ggaataaaaa cccacaaaaa tacagagagg aacgttttta120
accttttaggg cctgctcctt ctgccttttg cccatcaggg tcaaagagta ggagtgagga180
aggaagggat gggacagcat cccctgggac gttcaagtac catccctggt ctccactctc240
cagccttaga gagtggacca gccagagcac ctgctctgga ctctcagacc tgctgctttg300
tctctaccaa ccttggcagg gatctaggat ccatttagtg ggatcaggtc ccagtcaata360
ccattggggc tcaaataagt tcttagaacc acagagtcta gggccagggt cccaactcat420
aggtgacgga gttcccttct aagctcgtgc cgaattcggc acgagcgggc acgagcttga480
agggaaactcc gtcagctatg agttgggacc ctggccctag actctgtggt tctaagaact540
tatttgagcc ccaatggtat tgactgggac ctgatccac taaatggatc ctatgccct600
gccaaaggttg gtagagacaa agcagcaggt ctgagagtc agacgaggtg ctctggctgg660
tccactctct aaggctggag aaggagacc aggatggtac ttgaacgtcc cagggatgct720
gtcccatccc ttcttctctc actcctactc tttgaccctg atggccaaag ccagagacgc780
aggccctaaa ggtaaaaacg tctctctctg attctctggc ttttactccc tagtgtctct840
gcataa

```

(2) INFORMATION ON SEQ ID NO. 92:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1374 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"BIOBASE" 1992

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

cgaaagcgtc ggactaccgt tggtttccgc aacttcctgg attatcctcg ccaaggactt 60
 tgcaatatat ttttccgctt tttctggaag gatttcgctg cttcccgaag gtcttggacg 120
 agcgctctag ctctgtggga aggtttttggg ctctctggct cggattttgc aatttctccc 180
 tggggactgc cgtggagccg catccactgt ggattataat tgcaacatga cgctggaaga 240
 gctcgtggcg tgcgacaaag cggcgacaga gatgcagacg gtgaccgccc cgggtggagga 300
 gcttttgggt gccgctcagc gccaggatcg cctcacagtg ggggtgtacg agtcggccaa 360
 gttgatgaat gtggacccag acagcgtggg cctctgcctc ttggccattg acgaggagga 420
 ggaggatgac atcgccctgc aaatccactt cacgctcatc cagtccttct gctgtgacaa 480
 cgacatcaac atcgtgcggg tgtcgggcat gcagcgcctg gcgcagctcc tgggagagcc 540
 ggccgagacc cagggcacca ccgaggcccc agacctgcat tgtctcctgg tcacgaaccc 600
 tcacacggac gcctggaaga gccacggctt ggtggaggtg gccagctact gcgaagaaag 660
 ccggggcaac aaccagtggg tcccctacat ctctcttcag gaacgctgag gcccttccca 720
 gcagcagaat ctgttgagtt gctgccacaa acaaaaaata caataaatat ttgaaccccc 780
 tcccccccag cacaaccccc ccaaaaacaac ccaaccacg aggaccatcg ggggcagagt 840
 cgttggagac tgaagaggaa gaggaggagg agaaggggag tgagcggccg caccagggc 900
 agagatccag gagctggcgg ccgccgatca gatggagaag gggggaccca ggccagcagg 960
 agacaggacc ccggaagctg aggccttggg atggagcaga agccggagtg gcggggcacg 1020
 ctgcccctt ccccatcacg gaggggtccag actgtccact cgggggtgga gtgagactga 1080
 ctgcaagccc caccctcctt gagactggag ctggcgtctg catacgagag acttggttga 1140
 acttggttgg tccttgtctg caccctcgac aagaccacac tttgggactt gggagctggg 1200
 gctgaagttg ctctgtaccc atgaactccc agtttgcgaa ttatagagac aatctatttt 1260
 gttacttgca cttgttattc gaaccactga gagcgagatg ggaagcatag atatctatat 1320
 ttttatttct actatgaggg ccttgtaata aatttctaaa gcctctgaaa aaaa 1374

(2) INFORMATION ON SEQ ID NO. 93:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 761 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"SECRET"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

```

gcctgatggg ctggagccag actgtggtct gaggaggaga cacagcctta taagctgagg 60
gagtggagag gcccgggggc aggaaagcag agacagacaa agcgtttaga gaagaagaga120
ggcaggggaag acaagccagg cacgatggcc accttcccac cagcaaccag cgccccccag180
cagccccag gcccgaggga cgaggactcc agcctggatg aatctgacct ctatagcctg240
gccattcct acctcgaggg tggaggccgg aaaggctcga ccaagagaga agctgctgcc300
aacaccaacc gcccagccc tggcgggcac gagaggaaac tggtgaccaa gctgcagaat360
tcagagagga agaagcgagg ggcacggcgc tgagacagag ctggagatga ggccagacca420
tggacactac acccagcaat agagacggga ctgcggagga aggaggacc aggacaggat480
ccaggccggc ttgccacacc cccacccctt aggacttatt cccgctgact gagtctctga540
ggggctacca ggaaagcgcc tccaacccta gcaaaagtgc aagatgggga gtgagaggct600
gggaatggag ggcagagcca ggaagatccc ccagaaaaga aagctacaga agaaactggg660
gctcctccag ggtggcagca acaataaata gacacgcacg gcagcacaaa aaaaaaaaaa720
aaaaaaaaatcc ttgttaaaaa aaaaaaaaaa aaaaaaaaaa a 761

```

(2) INFORMATION ON SEQ ID NO. 94:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1825 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

03673647.03667
 04952955

aggggaagcta	gtagcgggacc	ggaagtggagg	caccctcggg	ctcgagacag	cggcgacgtt	60
taaagctgag	cgacccagtg	ccactggaga	cggtcagctt	ctccactcag	gctcctccag	120
cccagagccag	aagaccccct	cccccagaat	tctggggggc	gatggaagg	agccgagtca	180
gatcgcgagg	taccocagagc	cgacagaccg	gagcgacaag	gagttgccc	aagccccgcc	240
cctaggagtg	atcggaaaagc	ctcaccctac	cgggtgagga	accgggagga	ccgcctccgg	300
gcgagagcgcc	gaccatgggt	acgcccctgg	tggcgggtcc	cgcagctcta	cgcttcgcgg	360
ccgoggctag	ctggcagggt	gtgcgcggac	gctgcgtgga	acattttccg	cgagtactgg	420
agttttctg	atctctgcgc	gctgttgccc	ctggcttggt	tgcctaccgg	caccacgaac	480
gccttttgtat	gggcctaaag	gccaagggtg	tggtggagct	gatcctgcag	ggcgggctt	540
ggggcccaagt	cctgaaagcc	ctgaatcacc	actttccaga	atctggacct	atagtgcggg	600
atcccaaggc	tacaaagcag	gatctgagga	agattttgga	ggcacaggaa	actttttacc	660
agcagggtgaa	gcagctgtca	gaggctcctg	tggatttggt	ctcgaagctg	caggaactgt	720
aacaagagta	tggggaaccc	ttcttggtct	ccatggaaaa	gctgctttt	gagtacttgt	780
gtcagctgga	gaaagcactg	ctcacaccgc	aggcacagca	gcttcaggat	gtgctgagtt	840
ggatgcagcc	tggagtctct	atcacctctt	ctcttgccctg	gagacaatat	ggtgtggaca	900
tggggtggct	gcttccagag	tgtctgttta	ctgactcagt	gaacctggct	gagcccatgg	960
aacagaatcc	tcttcagcaa	caaagactag	cactccacaa	tcccctgcc	aaagccaagc	1020
ctggcacaca	tcttctcag	ggacatctt	caaggacgca	cccagaacct	ctagctggcc	1080
gacacttcaa	tctggccctt	ctaggccgac	gaagagttca	gtcccaatgg	gcctccacta	1140
ggggaggcca	taaggagcgc	cccacagtca	tgtctgtttc	cttttaggaat	ctcggctcac	1200
caaccacaggt	catatctaag	cctgcagagca	aggaagaaca	tgcgataatac	acagcagacc	1260
taggcatggg	cacaagagca	gctccactga	ggaagtctaa	gagtcctatgc	cagaccctgg	1320
ggggaaaggc	tctgaaggag	aacctcagtg	acttgccctgc	cacagagcaa	aaggagaatt	1380
gcttggttg	ctacatggac	cccctgagac	tatcattatt	acctcctagg	gccaggaagc	1440
cagtgtgtcc	tccgtctctg	tgcagctccg	tcattaccat	aggggacttg	gttttagact	1500
ctgatgagga	agaaaatggc	cagggggaag	gaaaggaatc	tctggaaaac	tatcagaaga	1560
caaagtttga	caccttgata	cccactctct	gtgaatacct	accccttctt	ggccacggtg	1620
ccataacctgt	ttcttctctg	gactgtagag	acagttctag	accttttgta	tagaactaaa	1680
atgctctctg	tactctagtc	tctgcctctc	tcagctctgc	aagtagttta	gtaggaatga	1740
agtgggaagt	caggcttgga	ttgcctaact	acactgctaa	aaatatttgt	aatccttaat	1800
aattaaactt	tggatttgtt	aaaaa				1825

(2) INFORMATION ON SEQ ID NO. 95:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1374 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

```

ccgggattcg cctccggggg agcgattggt cctcgggagg ggcggggagg tggacgcggg 60
taccggcggt cgtcggggtcg gcagcctttg gtcagttggc agcggcaagc gcgctgcggg 120
tccggtggcg ccatgtcggt ctgcagcttc ttcgggggag aggttttcca gaatcacttt 180
gaacctggcg tttaactgtg tgccaagtgt ggctatgagc tggtctccag ccgctcgaag 240
tatgcacact cgtctccatg gccggcggtc accgagacca ttcacgccga cagcgtggcc 300
aagcgtccgg agcacaatag atctgaagcc ttgaagggtg cctgtggcaa gtgtggcaat 360

gggttggggc acgagttcct gaacgacggc cccaagccgg ggcagtcctc attctgaata 420
ttcagcagct cgctgaagtt tgcctctaaa ggcaaagaaa cttctgcctc ccagggtcac 480
taggcgggca gcccacaccc accccagacg gccaccacac tgaggccaca cgttggccat 540
tccaccttgg agttggaacc ctgggctgct agacaggaag gcaggggcga gtggttgaaa 600
catcaggaca ctcccaaggc cccggctctg aacaagacct ttctgtttct tggaaaagag 660
actcatttgc tgatggttca tgccttctgc tgggacaggc ctgggctgtg cagccacact 720
gtcggctgac tttagccccc gctcactcta ggtgcctcca ggaggtgagc cctgggtgca 780
gctggtctct gaatgacggt acaccctcac cttcttttcc tggccctgtc tctggactct 840
cccctgtgag gcccatttcc aagacagact ctgctcctca ccgaagctta ggcccacatc 900
tcccaggctg cttaggagac agaattgaaa cggaggccgc ccctgccagc cgccctggcc 960
ctggtcactg catgatccgc tctggtcaaa cccttccagg ccagccagag tggggatggt 1020
ctgtgacctg ctgggaaggc aggctgatgg ggcacaccct tggcctctcg tccacgaggg 1080
gagaaacctt aacctgtttt cacaatctgt gcggaagtag cttgcctcac ttctgcttag 1140
gaaagcggct gttgtcccat aactctaacc agcacagggc tgaggcctgc agtgcacacc 1200
tgcaggaggc cccttcccaa ggtgtggtga ctgtgcctta ctgtacatgc tcggaggcct 1260
ggccatatag gaggggtggg gatgctgaaa tcacccccca tcttaagtaa ttactttctg 1320
gagtaatcag gtggaaatcc atagacaaat gaaacattca gatgtaaaaa aaaa 1374

```

(2) INFORMATION ON SEQ ID NO. 96:

(i) SEQUENCE CHARACTERISTIC:

cttgggaagc	tccctgatat	ttgtcaacct	gactgtgcga	ttctgtatct	tgggaaaaga	60
gtccttttat	gacacattcc	atactgtggc	tgacatgatg	tatttctgcc	agatgctggc	120
agttgtggaa	actatcaatg	cagcaattgg	agtcactacg	tcaccgggtgc	tgccttctct	180
gatccagctt	cttgggaagaa	atttttat	gtttatcatc	tttggcacca	tgggaagaaat	240
gcagaacaaa	gctgtggttt	tctttgtgtt	ttatttgtgg	agtgcaattg	aaattttcag	300
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gaaaatcaaa	gttagatttt	ccttttttct	tcagatttat	cttataatga	tatttttagg	540
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gaaaaagatc	cactaaaaag	aaagatttag	atggcttctt	gccagtttga	gcctaatactg	660
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attctcagtg	aggctatctt	ccttttcccc	agtaacattc	ctgaatttac	tgttatctta	780
ttgtagtact	tgcattgacat	ggattcctga	tatctgatga	gaggtttcatt	cttgtgtatt	840
cagttaatga	cacccaaaagg	ctcagcccac	cccaacccta	tctcatgttc	agtctgtcta	900
atacatgcc	gagatttttt	tttcaaaaag	tgcctttatcc	ctacaattga	ctcagagttc	960
ttacagttga	gatttgttct	tttcagctat	tgcctgtgaa	aaaaagcaag	actatgtcac	1020
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acttgtttaa	tgggatggca	tgacttttt	gaaaatcaag	tggactgagt	cattgataaa	1140
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ttggcttttt	aaacctgtct	gcagtaggac	actgaaaaca	gcaagaactt	cggggtgaac	2040
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tttagacata	cagttggcca	ttgtaaaaaa	catcagtttc	ctctcataca	ttccaagtaa	2160
accaagtaaa	ataagtgttg	gagtaacact	tgcataaaaag	aatttaagga	gtgatagctc	2220
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tacttgtttg	tattgatttc	tgatattctt	gcagctgact	acgtgtaatt	gggcagatca	2460
gccttgcagt	agattatgct	gcacctcctg	ggcaaaattc	tgtattctta	gtgattgtta	2520
caaacccctt	tattgctgtc	tgagaaagtg	aaagattgtg	tatttctatt	aaaacattta	2580

(2) INFORMATION ON SEQ ID NO. 97:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 508 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

gttggcagaa acccggtatc cggttccggt gggcctccat cagcaagctc cagtgcctacg 60
tgtccctggc attttaggtg tcgggtgggt aggcagtcac ggatcaggta atgcagtttg120
ttgagccaag tcggcagttt gtaaaggact ccattcggct ggtaaaaaga tgcactaaac180
ctgatagaaa agaattccag aagattgccca tggcaacagc aataggattt gctataatgg240
gattcattgg cttctttgtg aaattgatcc atattcctat taataacatc attggttggtg300
gctgaataca ttttgaaga gagtttttca tcttagagat tggatgaaca gtgtgaggg360
gtgagaaact cacagaatac aaatttgccg gtatgttttg tgggtttttt tttttccttt420
caagatgttt tctatttcta aattaaagta atttcaaagt aaaaaaaaaa aaaaagtcga480
cgcgccgcgc aatttagtag tagtaggc 508

(2) INFORMATION ON SEQ ID NO. 98:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3588 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

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ctccgtctca aaaaaaaaaa aaaaaaaaaag aaaagggaa ggaatcccat tttgtgatga 60
tttgggcaca ctacttgagc tgaggctagc agtcacatga ttttggctgt ctctgacctg 120
aagcttttga agtaaggtta tgtctcttcc ctgaagcttt gtttatagtg gtaatttggt 180
gagtttgagc tttgagcttg tcttagaaaa taagactgtc cacctgggga ggggagctta 240
tagggaaccc gtgttaactc agaatgctga agaaagtgtc tttagccaac aaaagtaaga 300
ttactatcta gaaggtggaa agaagtcatt gcttctgttc ctccagcagt cagttgactc 360
taggtttcct ttggtttata tccccagttc ttaatactaa aacttatttg acttcctatc 420
aggaagcaca caaaaaaagc gtcattttaa accctggata taggctttaa aggatacaaa 480
aacagcagca ttgtcgtttt gccaggttca tcaccatttt gatgtgctac ccattcctcc 540
accctccctt tcctgccccc aagcctccca gccaggccag atgtgaagat tctattaatc 600
actgtttcag agaacattaa ttcttgtata gaataattat ctactaaatt gcttattatc 660
tgtgactacc ttgcagagaa catctcaaca gtgcagtaaa atagctctcc tagacttgag 720
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cccttcaaaa atccaatttg ctcccagaat gttgttttag ctctgagaat ctactcttt 1500

catttccatc tgtgaatgga catagatgtg ttgctcaggg atcagaaaaca tcagagtcca 1560
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ttctcatcat taggtcacct aatctcttgg gttgcaggat gagagcatat atagatctcc 2580
tgttttagaga gtgtgttcat aattgtagaa agggatagaa aatggaataa ccaagaggct 2640
gtgtcatttt ttaagaggat ggcaaggatg acctcaaatg agctcaacaa aactgggaat 2700
ccaaggaaat gtgctttagt ggaaagagag gtcagttgtg gtccttaaac ctcttggcac 2760
cttgtcgagg ttataaaaaca aggagctgga gtaaaattgc ccttaccctc aatccaaaatg 2820
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tttgagcac tctctggagc tgaggggagt gaaatttggt ccagagaagg cggaaggaaa 3060
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tcatgggtgc ggctggcagt acagtccaggc tgtggaggag ggctgagaag aaagggggcac3180
tgggtccagcc ccagggtttgg tctgagacag gtacacagca gataccatcc caccttcctc3240
tctaaagaac aggccagcca cacatataac cctttcccta ctttactaat gtatccctta3300
tgtgttacca gcaatggagg acaggcagac ttaccccttg ccactctagag agaattgtgt3360
tattacccgt aaaacttgac ccccccata tccactcct ttttgtaaaa acaaatgctt3420
aaacctgtga gcoctgcoctt cctttctatg tgtaaatcag tttccttcca tttgagctgt3480
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tatttcacac acaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3588

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(2) INFORMATION ON SEQ ID NO. 99:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1218 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

```

tgggtggcgtt taaataacaa atctgctaaa gttaggcaac aggcagctga cttgattttct 60
cgaactgctg ttgtcatgaa gacttgctcaa gaggaaaaat tgatgggaca cttgggtgtt 120
gtattgtatg agtatttggg tgaagagtac cctgaagtat tgggcagcat tcttgggaca 180
ctgaaggcca ttgtaaatgt cataggtatg cataagatga ctccaccaat taaagatctg 240
ctgcctagac tcacccccat cttaaagaac agacatgaaa aagtacaaga gaattgtatt 300
gatcttggtg gtcgtattgc tgacagggga gctgaatatg tatctgcaag agagtggatg 360
aggatttgct ttgagctttt agagctctta aaagcccaca aaaaggctat tcgtagagcc 420
acagtcaaca catttggtta tattgcaaag gccattggcc ctcatgatgt attggctaca 480
cttctgaaca acctcaaagt tcaagaaagg cagaacagag tttgtaccac tgtagcaata 540
gctattgttg cagaaacatg ttcacctttt acagtactcc ctgccttaat gaatgaatac 600
agagttoctg aactgaatgt tcaaaatgga gtgttaaaat cgctttcctt cttgtttgaa 660
tatattgggtg aaatgggaaa agactacatt tatgccgtaa caccgttact tgaagatgct 720
ttaatggata gagaccttgt acacagacag acggctagtg cagtgggtaca gcacatgtca 780
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cagatcagtg gtgactgg

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1218

(2) INFORMATION ON SEQ ID NO. 100:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1303 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

```

gtgctcaaga agtgcccttga gttgggtgtac agtgccatgg ccagcaagaa tcccagattt 60
caggttttat tacaaaatgt aagtgggtcac ttggcgattt tgtagtacat gcatgagtta 120
ccttttttct ctatgtctga gaactgtcag attaaaacaa gatggcaaag agatcgttag 180
agtgcacaaac aaaatcacta tcccattaga cacatcatca aaagcttatt tttattcttg 240
cactggaaga atcgtaagtc aactgtttct tgaccatggc agtgttctgg ctccaaatgg 300
tagtgattcc aaataatggt tctgttaaca ctttggcaga aaatgccagc tcagatattt 360
tgagatacta aggattatct ttggacatgt actgcagctt cttgtctctg ttttggatta 420
ctggaatacc catgggcccct ctcaagagtg ctggacttct aggacattaa gatgattgtc 480

agtacattaa acttttcaat cccattatgc aatcttgttt gtaaagttaa acttctaaaa 540
atatggttaa taacattcaa cctgtttatt acaacttaaa aggaacttca gtgaatttgt 600
ttttattttt taacaagatt tgtgaactga atatcatgaa ccatgttttg ataccctttt 660
ttcacgttgt gccaacggaa tagggtgttt gatatttctt catatgttaa ggagatgctt 720
caaaatgtca attgctttta acttaaatc cctctcaaga gaccaaggta catttacctc 780
attgtgtata taatgtttta tatttgtcag agcattctcc aggtttgcag ttttatttct 840
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accccaaata acatcgtctg tactttctgt tttctgtatt gtatttgtgc aggattcttt 960
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tccattgaag tcgaatgata ctgagaagcc tgtaaagagg agaaaaaac ataagctgtg 1080
tttcccata agttttttta aattgtatat tgtatttgta gtaatttcc aaaagaatgt 1140
aaataggaaa tagaagagtg atgcttatgt taagtcctaa cactacagta gaagaatgga 1200
agcagtgcaa ataaattaca tttttcccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1260
atacgttgga atgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1303

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FBI/DOJ - 07/07/07

(2) INFORMATION ON SEQ ID NO. 101:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2333 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

```

tgaaaaatgc ggacagtata ttcagaaagg ctattccaag ctcaagatat ataattgtga 60
actagaaaaat gtagcagaat ttgagggcct gacagacttc tcagatacgt tcaagttgta 120
ccgaggcaag tcggatgaaa atgaagatcc ttctgtggtt ggagagttaa agggctcctt 180
tcggatctac cctctgccgg atgacccag cgtgccagcc cctcccagac agtttcggga 240
attacctgac agcgtccac aggaatgcac ggtaggatt tacattgttc gaggttaga 300
gctccagccc caggacaaca atggcctgtg tgacccttac ataaaaataa cactgggcaa 360
aaaagtcatt gaagaccgag atcactacat tcccaacact ctcaaccag tctttggcag 420
gatgtacgaa ctgagctgct acttacctca agaaaaagac ctgaaaattt ctgtctatga 480
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caatacctgg cgagatcaac tgagaccaac acagctgctt caaatgtcg ccagattcaa 660
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aaggactttg cacagcacct tccagcccaa catttcccag ggaaaacttc agatgtgggt 900
ggatgttttc cccaagagtt tggggccacc aggcctcct ttcaacatca caccgccgaa 960
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gaaaagcatc acaggagagg aaatgagtga catctacgtc aaaggctgga ttcttggaal1080
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cattcagata tgggacaatg acaagttttc tctggatgac tacttgggtt tctagaact1320
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gtccatgaaa ggatggtggc catgctacgc agagaaagat ggcgcccgcg taatggctgg1500
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gaaggggagg gacgaacca acatgaacc caagctggac ttaccaaata gaccagaaac1620
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tctagacttc agcttttgga aattgctaaa tagaattcaa aaatctctgc atcctgaggt2160
gatatacttc atatttgtta tcaactgaaa gagctgtgca ttataaaatc agttagaata2220
gttagaacia ttcttattta tgcccacaac cattgctata ttttgtatgg atgtcataaa2280
agtctattta acctctgtaa tgaaactaaa taaaaatgtt tcacctttaa aac 2333

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FBI LABORATORY

(2) INFORMATION ON SEQ ID NO. 102:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1377 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

```

cattactggtt atatgagaaa catttttagta atttaataaa aggataatgt ttattttaaaa 60
aacctgactt ttccagagta attttggttt gcacattcat gtttattgaa gtggactaat 120
ttctataatg caaatcagag ttaaataatta aaaattgtgt aaatacaatt gacataggaa 180
ttacattaaa atattaggaa gaaacaagga caaatttaga ccttgaatcc gaagagataa 240
agcttacttg actttcaaatt ggagagatga tgaaaaccca ctcatcagt ctttcagaac 300
aaaaagacag tcatctgata agagtatgac atggatgaaa tgccctacag gggccttgga 360
catctttaat ttctgcgatt atgtgaaaga ggtggacttt acagataatg gagcagaagc 420
caacattagt aaaaggaatc ccaacttctt cccatagaat tagaaacatg tgaaagtaca 480
ataaacttct tgttcaaatt accagcatca gagagcttcc catttgcatc tagaccttga 540

atztatattt attgatcaag ttctaatttg tatgtatatt ttgtgcatat tcaccaataa 600
cagttaaaaat taattatgtg ttatagttaa tatatgcacc taccttcttc cgttagtgca 660
tcagtaaatg tgttattttg tcatttttcc aaagagagtg ttgtaggttt tccctgtagt 720
tcttccttta tagcttttct tctgataacc atgacttcag gagcttttaa actatctatc 780
ttgcatttgt gtctggcgga gaactagcca tcagcctcct gaagcctgcc atcattgtta 840
at ttgaggac tgggctgtct tggggctcag aaggtaaaga actatttgag cagatgtgtg 900
tgggtggcac tggattccac ccaactgcca agttagtatt gttagagatt tcattttaca 960
acacaaaaat aagcctgtgt caaagatttt aaaatcatgg aaagttaaaa tctagaaaga1020
ccttagagaa ccagccaacc aactctctca ttttaaaagt gaaggattca tagcacagat1080
tacttgcta agatcatcca ggaacgaaga caagaatcca aatgtacttg gggacaagaal140
ttagtcccca aattcagtgt tcttcctagt attaaacatt gcccttttcg acaaattttg1200
gatttcaatc ttggtatatt tcagtaaacc tgctgattta ttaggttact gggtagatga1260
cattagaatg tagatagcgt gcacgctatg atagactctg ctaagacatg ttcccagtg1320
ccagcagcaa tgtagatatg tgtgacagtg gtcatgtaga agttataaag cagagta 1377

```

2005-04-29 10:44:44

(2) INFORMATION ON SEQ ID NO. 103:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 315 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

```

ataaggaatg agaagaaagg ctgtgtctta tcagtaggtg agatggaact ggtcctggta 60
gtgttggagc aggacaggca cttagttctg atgctgtggt cctttgtgat agtagagcac120
cggggttaac caccactcct ttaggctact tgtagtgaca acagaagtaa aatatttcaal80
ttattttaatt tagaatgtta tgttttactg gaacctgcaa tatgcatgta cagaattaat240
aatttttact cttttggtca agttatacta aggcaaagcc agtggattca aaagtgagac300
attgacaggc cattt                                     315

```

(2) INFORMATION ON SEQ ID NO. 104:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2355 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

atgatcatgc	cactgcactc	catcctgggt	gacagcaaga	tcttgtaaaa	aaaaaaaaaa	60
aaaaaaccag	gagtgaaaaa	ggaaagtaga	aggcagctgc	tggcctagat	gttggtttgg	120
gaatattagg	tgatcctggt	gagattctgg	atccagagca	atctcttag	cttttgactt	180
tgccaaagtg	tagatagcct	ttatccagca	gtattttaag	tggggaatgc	aacgtgaggc	240
caactgaaca	attcccccgc	tggctgccca	gatagtcaca	gtcaagggtg	gagagtctcc	300
ttccagccag	tgacctaccc	aaaccttttg	ttctgtaaaa	ctgctctgga	aataccggga	360
agcccagttt	tctcacgtgg	tttctagctt	cttcgacttc	agcccaaatt	aggaagtgca	420
gaagcacatg	atggtgaaaa	acctaggatt	tggcagcctt	ccagaatggg	atggaatctg	480
agggaaagatt	tatgtttcgt	tttgaggat	agctcaagtt	gaattttctt	tccagccagt	540
taccctttca	acctacctac	actttgtaca	actcttacac	aaataacttag	atatttatta	600
gatagccctg	aattcactct	aattataaac	agggagtgtg	aactgcccc	agatgttctt	660
gggctgggta	aaagcagctg	gagtgaagca	ctcatttttc	ataaaggtaa	caaagggcag	720
ctcagtgggt	actcaagctc	aaaaggggtt	ttttaagagc	aagcattggg	taagtctgtg	780
tatactgagt	tgggaagtgat	ttcagcacat	tcttttttag	tggagtgaag	gttctgaagc	840
ccccttttaa	cttctctctg	gtttttcatt	ataattggta	gccatctcat	gaactgtctc	900
tgactgttgt	ctcttttgtg	tcatgtgatt	gtgagcttgc	tttctgactt	gcatttctga	960
ctttatcctg	ttgttaggaa	gatagaaact	aggttttgaa	agattacatg	attcaagcga	1020
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ttatgaaaga	acaatatagt	ctgggaatcc	cagaatgtca	agccaaaggt	ctaagaagtc	1140
atctccttca	aatactttaa	taaagaagta	tttcgaggag	atatctgtcc	aaaaaggttt	1200
gactggcctc	cagattccag	ttatttttaa	aaagcaactt	accactaaa	ccttgagtct	1260
ccatagagta	acagtaaa	aactgatgta	acagactctc	ctctcaaagg	atctcctctg	1320
gaagagacta	tcagcggcag	cattctccag	ggaagaccca	tcccctagt	ccagagcttg	1380
catcctggag	actaaagatt	gcactttttt	gtagtttttt	gtccaaatgc	aatcccattt	1440
ctgtgcctct	tagcatgcag	ttagattttg	acaaacaaga	ttcctaagga	atgactttat	1500
taactataat	atggttacag	ctattatata	aatatatatt	ctggttatag	ttctaatatg	1560
gagatgttgt	gtgcaatgct	ggcctgtggg	ggtctgtgta	atgctttaac	ttgtatggag	1620
gaggccaggc	tcagagctga	gatgtggcct	gaaccttccc	tgtatcgatc	ctttaattta	1680
gaactgtcaa	gatgtcactt	tctccccctc	tgcttttag	tggatatctga	catatactca	1740
aaacagtaat	ttcctgggtc	catcattaac	tgctaattct	gtatttataa	agaattttca	1800
gatggacatg	tacaaatttg	aactcaaaac	atccccagtc	cagatacagg	gcagcgtgtg	1860
ggtgaccaca	ccagagcctc	agcctcgggt	cttctcagcc	gtcgggatag	gatccaggca	1920
tttcttttaa	atctcagagg	tagcagtaaa	cttttcagta	ttgctgttag	caagtgtgtg	1980
tttgccaata	gatacccat	atactaattg	gccaaagtaa	tgttcattgc	acatctgctt	2040
ccactgtgtt	cccacgggtg	ccatgaagtg	tgtgaggagc	ccctcatctg	gagggatgag	2100
tgctgcgttg	actactgcta	tcaggattgt	gttgtgtgga	atattcatct	acataaattt	2160
tatatgcaca	gtaatttccc	tttttatatg	tcaagtaact	atttgtaaaa	gttatactca	2220
caaattatta	taatgtttac	taatatattt	tttccatggt	tcattgcctg	aataaaaaact	2280
gtttaccact	gttaaaaaaa	aaaaagtaaa	aaggaggag	tgggaaaaaa	aagctggggg	2340
gggggcccgg	tagcc					2355

(2) INFORMATION ON SEQ ID NO. 105:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1339 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

```

attcggcacg agcatgaaac atgctcattt tacctaacag taaacaagta tgttttgata 60
gatatctgtt aatatgctta tagtggttaag aaatggactt gaggtcccag gagatttcat 120
tttattcacc ctgggtcagat acaataaagg ctatgagtat aaatacataa cttcctaacc 180
aggtgtaggg catgttcatg aatatcaaat cttttgatgc tggacccaag agaggaaaag 240
ttgtagctaa atgttgattt acttataact agacgtctat gtgagaaaat atatgtatac 300
atatatatga tatgcagaag tcactttttt tatcaggctt tattctcctt acaaagccac 360
agtttaactg tctgcaacag ttggtttatg ttaatgatag acaaataccc agtgtttggt 420
actttttcca actaccactg taatgataat ctttctcacg tatatacatg caacttcttg 480
gcttcatttc catgaagctg tttcaatata ttcagtatac tttgtcctta atgctgcttc 540
tgttaacagt gatctctttc tttttttcat tcttatatct tcattagttc atcataaatc 600
tgtccagttg aggccctcagg accacggcat gatttcatga ctccgaagta ttttacagaa 660
acatttttta aataagggaa atattttata taccagatgg ttcacaagtg atggctcata 720
gctagttttt ttttttcttc taaaaaatgt caggttttta aaatcattta ccttattaaa 780
atgaaaagtg ccataactta ctttttaaagg aaagacctga cttgcttttt ctctatttag 840
actgtttttg tacttttacta atcttttaaac tatcaggaaa aaaacccaaa ctttatacca 900
atgatttagt aatttttgagg catagggtag cttacgtagt ggaggatgtg ccaaattatc 960
tcttcaaatg ccaccttctc aattttataac taaaatagtg ttatctgact aattcctctg 1020
aattttgatg taagatctat ataggcccc aaaatgatcg tagtacatgc cagtcatttc 1080
tcagtgaat aaatacaata ccagagtaca ttatgggttt tattgctttc ttttatggta 1140
gacctgttaa tgggggaaaaa atacatcaaa tcaaatagaa tcttatatct gtatgttaaa 1200
atagagcact tacctgaagt cagtggcctg gatcatagcc ctggatcatt tcccagtcgt 1260
tcctgtgctg ggtggacctt ggacaaggcg ctgcagtagg tgatggctga gagcccttccl 1320
ctgttcccaa gtgccttgt

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J09573640.336674

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN
(C) ORGAN:

(A) LIBRARY: cDNA library

gatacgcgagc	ggccttttggga	atctatttgcg	caaaaagaagt	ttcatttttgg	ttactttagac	60
ctaagatcac	ttattaaaaa	tccttatttt	ctccaagccc	agcaaacgtt	gacttctggg	120
caaacctgaa	aacctgaaaa	tgccactttc	atgcagtttg	tttgaagtta	agtggaatcc	180
tttcaaataga	cgagctgcag	agaactcagc	accaagggct	gcctatctgt	agatagctgt	240
aaaatggaat	atTTTTaaat	gaaggcaaat	aagtacttaa	aagtgaagctg	agcaataaaa	300
tggTccaata	ataggtaaat	gcaacagaaa	cagaaggaga	cctgggttgc	ttatgccttt	360
actctttacat	ggaataaaat	cccaatgcac	atcctatgta	aaccataagt	gaagggaaat	420
aaacctcgctc	atgctccatg	ctgtgaggtg	tcctttggat	attctgtgat	gacagagaag	480
cctatttttgt	tttgttttca	gcactctttct	ctgatgtacg	tttttaagga	ttttgtaaga	540
gctgtttttca	gtgttttaaat	tagtgctatt	tttccttggt	tttaaaaaatg	aatctcgtag	600
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gtattactaa	tcatatgttg	attaaactgtc	tacttaaagt	caaggtagct	gtatttttaa	960
tccactaatt	ttttttttagt	tgggaaatag	atttcagggtc	ttttattaga	ctaacattttt	1020
ttgagaagta	aaattgactt	catatacaaaa	gcctgtaatt	ttaggcgaaa	tggaagcaga	1080
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gaattcatct	gtttgaagcc	tgaataaatt	taggactctg	attcactgac	caaaagtcag	1200
tgttgagag	atttctctac	cccgtatggt	attttgttag	attgttcaac	aggaagcacal	1260
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tgatttcctt	ctcctaaattc	gctcaactcc	aagagtcttg	agaaactgtc	aaaattttgc	1380
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gtctgtgaca	taggoatctt	attcactgca	ccctgtcaca	cccagacccc	cccgccccgc	1500
acattatttg	aaagactggg	aatttaattg	ttagggcag	taaatctact	tctttttcca	1560
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taacttgaca	tgagcacctt	tagatccctt	cccctccatg	ggctttgggc	cacagaatga	1740
acctttgagg	cctgtaaaagt	ggattgtaat	ttcctataag	ctgtaatatg	ggaggtattg	1800
tgggttcatt	tgagtaagcc	ctccaaagat	accattcaaa	taacctggga	gaatgtcata	1860
aattattcag	ataatttaaca	ctgcatagat	ctgattcaga	ggcatgcatt	tacattatgtt	1920
gcccttaatta	ccatttgatg	atcataaata	caagtgaatg	acattggact	tttagtaaca	1980
aacttaattt	ttaaaaagggt	gtagacaatg	gtggttaaaa	aaaaaaaaaa	aacaggtacc	2040
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gaacagtatt	cattctactt	tttcaaataga	tatgctgtag	aaaatatctc	ttgaagatgt	2160
gagatttaaa	aatttttccc	tttcaatggt	gttttaattg	tatttcttac	ttggtttttt	2220
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caaaatgcta	aattacaatg	cagacattaa	gaaaaagtat	tgactggagg	ggttgaatttc	2580

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aacctagtaa	tgctataaag	atttttgttc	ttcctgttca	caaccagttg	tataacagaa3600
atactagcta	ctgttttctt	tctgtgtgtg	gaagtaatga	atcattgatt	atgtgacttg3660
ttatgtattc	aattaaacac	taaagaataa	aacattcact	cctttaatta	ataaaaaaaaa3720

(2) INFORMATION ON SEQ ID NO. 107:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 300 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

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cgctcggccc ccgcggagag atcgaggtgt acttggccaa gagtctggcg gaaaagctgt 60
atctatgtca gtaccctgtg cgtccagcct cgatgaccta cgatgacatt ccgcacctct120
cagccaagat caagcccaag cagcagaagg tagagcttga gatggccatc gacaccctga180
accccaacta ttgccgcagc aaaggggagc agattgogct gaacgtggac ggggcctgcg240
ccgacgagac cagcacgtat tcctcgaagc tgatggacaa gcagaccttc tgctcttccc300
```

(2) INFORMATION ON SEQ ID NO. 108:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1465 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

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gccaaccttc cctcccccaa ccttggggcc gccccagggc tectgogcac tgccctgttcc 60
tcctgggtgt cactgggcagc cctgtccttc cttagaggac tggaaacctaa ttctcctgag 120
gctgagggag ggtggagggt ctcaaggcaa cgctggcccc acgacggagt gccaggagca 180
ctaacagtac ccttagcttg ctttcctcct ccttcctttt tattttcaag ttctttttta 240
ttttctcctt cgtaacaacc ttcttccctt ctgcaccact gcccgtaacc ttaccggccc 300
cgccacotcc ttgtaccccc actcttgaaa ccacagctgt tggcagggtc ccagctcat 360
gccagcctca tctcctttct tgctagcccc caaagggcct ccaggcaaca tggggggccc 420
agtcagagag ccggcactct cagttgccct ctggttgagt tggggggcag ctctgggggc 480
cgtggccttg gccatggctc tgctgaccca acaaacagag ctgcagagcc tcaggagaga 540
ggtgagccgg ctgcagggga caggaggccc ctcccagaat ggggaagggt atccctggca 600
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gaaaaggaga gcagtgtctc cccaaaaaca gaagaagcag cactctgtcc tgcacctggg 720
tcccattaac gccacctcca aggatgactc cgatgtgaca gaggtgatgt ggcaaccagc 780
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aggggatatt ctgagtgtca taattccccg ggcaaggcg aaacttaacc tctctccaca 1080
tggaaccttc ctgggggttg tgaactgtg attgtgttat aaaaagtggc tcccagcttg 1140
gaagaccagg gtgggtacat actggagaca gccaaagact gagtatataa aggagaggga 1200
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cgaattcttg cgtgtgtgta gatgagggc gggggacggg cgccaggcat tgttcagacc 1380
tggtcggggc ccactggaag catccagaac agcaccacca tctaacggcc gctcgaggga 1440
agcaccggc ggtttgggcg aagtc

```

(2) INFORMATION ON SEQ ID NO. 109:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1488 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

cggcgggagg agcaggatgg agatccctgt gcctgtgcag ccgtcttggc tgcgcgcgcg 60
ctcggccccc ttgcccggac ttctggcgcc cggacgcctc tttgaccagc gcttcggcga 120
ggggctgctg gaggcgcgagc tggctgcgct ctgccccacc acgctcgcgc cctactacct 180
gcgcgcaccc agcgtggcgc tgcctgtggc ccaggtgcgc acggaccccg gccacttttc 240
ggtgctgcta gacgtgaagc acttctcgcc ggaggaaatt gctgtcaagg tgggtggcga 300
acacgtggag gtgcacgcgc gccacgagga gcgccggat gagcacggat tcgtcgcgcg 360
cgagttccac cgtcgcctacc gcctgcgcgc tggcgtggat ccggctgcgc tgacgtccgc 420
gctgtccccc gagggcgctc tgtccatcca ggccgcacca gcgtcggccc aggccccacc 480
gccagccgca gccaaagtagg agggggctgg gccgcgcccg caccocggga gcctcctcag 540
gctccctcta ttaaagccga tctgactccg ccagccaga tgtcccgagt gcgccaagga 600
ctgtcctctc acccactcct ggattctgcc ctgacctcca tctggacac tgcttgata 660
acatagaccc ttccactgac accctcgcct tcagagcccc tccagctttc cgacccaca 720
ccgacaactc ccggtcttc agaccctacc agcactacc taaccctcag ccgacagtct 780
cagccccacc gaccacttt cttggcatat agccccactt aagaccctc ctctacttcc 840
ttctgagtc tctacaaaga catccgggta ctacatttcc atcccttccc tattttgaca 900
ccaaattatg gtgtagacag ccctggccca acccaggcc agtcaggcac aatcccccca 960
cccccaaac gtcttgact gcacagacct cccactccag accatccagg cctggttccc1020
aagaccgat ccttcccttg caaccagaca gtctacaact gccccctcca gccattttc1080
tgccgtgaaa cccagccag ccacaccaga ctctggaacc ctttttcgac tgccccaact1140
cttgacacc aggccaacta gaacacccaa caccaaactg tacagactct cccaccccaal200
cctccccaga ctctgcacgg atgtcctagg cccctcccc aactotaacc agaccccatc1260
cccctaagtc cctttgtctt gacccccaa tcttcaacca gatatacctg gcaaccaccc1320
tcccaccctc ctctcttct ccttcaagac ccaactgagc acccgctctg attccccaca1380
gcctttctcc ctgccaccac tcccttagtc tttcccaggc ttactctccc aataaatgtg1440
ctagagctct gccaaaaaaa agaaaaaaa gtcgacgcgg ccggaatt 1488

(2) INFORMATION ON SEQ ID NO. 110:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 783 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"1993-1994" 0352

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

```

aacatattgt tgaaaggtaa tttgagagaa atatgaagaa ctgaggagga aaaaaaaaaa 60
aaagaaaaga accaacaacc tcaactgcct actccaaaat gttggtcatt ttatgttaag120
ggaagaattc cagggtatgg ccatggagtg tacaagtatg tgggcagatt ttcagcaaac180
tcttttccca ctgtttaagg agttagtgga ttactgccat tcaactcata atccagtagg240
atccagtgat ccttacaagt tagaaaacat aatcttctgc cttctcatga tccaactaat300
gccttactct tcttgaaatt ttaacctatg atattttctg tgcctgaata tttgttatgt360
agataacaag acctcagtgc cttoctgttt ttcacatttt ccttttcaaa taggggtctaa420
ctcagcaact cgcttttaggt cagcagcctc cctgaagacc aaaattagaa tatccatgac480
ctagttttcc atgctgtgtt ctgactctga gctacagagt ctgggtgaagc tcacttctgg540
gcttcactct gcaacatctt tatccgtagt ggggtatggt gacactagcc caatgaaatg600
aattaaagtg gaccaatagg gctgagctct ctgtgggctg gcagtcctgg aagccagctt660
tcctgcctc tcatcaactg aatgaggtca gcatgtctat tcagcttcgt ttatttttca720
agaataatca cgctttcctg aatccaaact aatccatcac cgggggtggg ttttaagtgg780
gct

```

783

(2) INFORMATION ON SEQ ID NO. 111:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1045 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

```

tctgttctgt ggacaactgt tactgttctt cagtggccaa ccatggcggc caccagccct 60
acccccgctc cgccactttt cactggacag tgccctcgca ggagtactca caccgctcc 120
cgccacacc ctccgtcccc cagtccttcc ccagcctggc ggtcagagac tggcttgacg 180
cctcccagca gcccgccac caggatttct acagggtgta tgggcagccg tccaccaaac 240

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actacgtgac gagctaacgc cacgcaggcg gcggggcgct ggggaatctt cctccccagc 300
ccccgggctc gggagttatg catccagaga cctgcccttc taccttcttc gcctccccctc 360
ttcctcattc cattgcccc ggtcttttcc ttttgattt tggtttgggt ttggctttgt 420
ttttgatttt tttttattat gaatctcctg gacgcagagg tgacagtggg agctggcctg 480
ggccaggacg gcagggtggc ctggagatgg gaaagtgtct gtgtcgaggc gctgagctct 540
ctctctgttt ctctttttt cctctactcc ttccccctca cccccctg gctggaagga 600
acctcggtt ccctgaaagc ttgggggtcc cacccttctt accccacccg ggaggaacgc 660
ccagggcccc gggcttgttt ctctcttgt tttcttttg ggcagtttga tctactgatcg 720
agtaaggaat gacctttaga ttgtgcgact tttgttttg tttttttaa tttttttaa 780
ccaagaatga tttctcctgc ttccttctcc tcaccatctt cccagacgga gttcaaaggc 840
cactttctca gcagcttttg gcaccttcag cctcagagtg gaatctttaa aagacaggac 900
ccctatgtcc aggaaagggg aaaaggaact ttgccaatga tagtgaccac agcaaaagca 960
aataataata atattaataa taataaaaga gaaaaaaaaa aatagaataa aaaaccaata 1020
gcacagcccc ttgttgaagg tccag 1045

```

(2) INFORMATION ON SEQ ID NO. 112:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1386 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

```

cacactcact gccatgaag gaagaggggg caagtgtacc gaggaagggg atgcctcaca 60
gcaagagggc tgcaccttag gttctgacct catctgcctc agtgagagcc aggtttctga 120
ggaacaagaa gagatgggag ggcaaaagcag cgcgggccag gccacggcca gtgtgaatgc 180
agaggagatc aaggtagccc gtattcatga gtgtcagtgg gtgggtggag atgctccaaa 240
cccgatgtc ctgctgtcac acaaagatga cgtgaaggag ggagaagggtg gtcaggagag 300
tttcccagag ctgccctcag aggagtgaag gggacaattt ggctgaagtc tttctctgaa 360
aaaagccaaa gggttatagg ggtacactta ggggttgcac gcaagctgtt accaaaaaat 420
ttttaagtat tttcttaatt tgaataataa aaccagagga aatgcataca gggcatgagc 480
aactgaggca aacctttgtg gacatgaatt gttctacgat gaatttttgc tttagtattt 540
taataagaat taaaaagaca atggcatact tggggtgaga gggagctgag gatgtctgag 600
gagggaatag tattgcaggg aagactgaga aaacagtagg atgacagttt tgagtatact 660
ctgcactttt caattgtgca atcttcttgt gcactttaag gctttttaat tttgtttgag 720
aatgcaaatg tatactgtaa gtctaccttt actatctact atgcctactt caccatctct 780
taaggactcg gcatttgtcc acagtcagac tgcaagagag ggtagggtcat gaacagtcac 840
ccgtgctggc ttagcctccc acagaggcaa tcatgcccac tagattcaag agaagctaag 900
cggaaatgga ggggtgaagg tgtgatctgt gggactgtct gggcctgtta ctcatcctgc 960
tatcaatttc ttattaatta atcttgatga ttcttattaa ttaatcacat ttgcaggaaa 1020

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ttcagatgag gcaagaaaat tttattggcc tgggtaagac tgaaagcatt ccaaattagg 1080
cttagactgt gcaaaagggt tagctaaagt atcgagctta aaaccctgca attaaacaaa 1140
cattatttga acagttactg catgccacgc actgtgttgg gcttagtaat aaaaaaaga 1200
aaagataagt gcttgttcta gcataaatta aaaggtccaa ggggaatttaa tctggaagag 1260
aacatatgcc aattttttaa ctatgacagc ttttttttcc tctttccatt caaataggcc 1320
cgggttcagt ccagaaaggg cacaaaatga atgaataaat aaataaatga ataaagaca 1380
aaaaaa 1386

```

(2) INFORMATION ON SEQ ID NO. 113:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1747 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

```

ccagtcctgtg agcccttgtc ctgtgggtcc ccaccgtctg tcgccaatgc agtggcaact 60
ggagaggcac acacctatga aagtgaagtg aaactcagat gtctggaagg ttatacgatg 120
gatacagata cagatacatt cacctgtcag aaagatggtc gctggttccc tgagagaatc 180
tcctgcagtc ctaaaaaatg tcctctcccg gaaaacataa cacatatact tgttcattgg 240
gacgatttca gtgtgaatag gcaagtttct gtgtcatgtg cagaagggtg tacctttgag 300
ggagttaaca tatcagtatg tcagcttgat ggaacctggg agccaccatt ctccgatgaa 360
tcttgcaagtc cagtttcttg tgggaaacct gaaagtccag aacatggatt tgtggttggc 420
agtaaataca cctttgaaag cacaattatt tatcagtgtg agcctggcta tgaactagag 480
gggaacaggg aacgtgtctg ccaggagaac agacagtggg gtggaggggt ggcaatatgc 540
aaagagacca ggtgtgaaac tccacttgaa tttctcaatg ggaaagtga cattgaaaac 600
aggacgactg gacccaacgt ggtatatccc tgcaacagag gctacagtct tgaagggcc 660
tctgaggcac actgcacaga aaatggaacc tggagccacc cagtccctct ctgcaaacca 720
aatccatgcc ctgttctctt tgtgattccc gagaatgtct tgcgtgtctg aaaggagt 780
tatgttgatc agaattgtgc catcaaattg agggaagggt ttctgctgca gggccacggc 840
atcattacct gcaaccccg aagagcgtgg acacagacaa gcgccaaatg tgaaaaaatc 900
tcattgtgtc caccagctca cgtagaaaat gcaattgtct gaggcgtaca ttatcaatat 960
ggagacatga tcacctactc atgttacagt ggatacatgt tggagggttt cctgaggagt 1020
gtttgtttag aaaatggaac atggacatca cctcctatct gcagagctgt ctgtcgattt 1080
ccatgtcaga atgggggcat ctgccaacgc ccaaattgctt gttcctgtcc agagggctgg 1140
atggggcgcc tctgtgaaga accaatctgc attcttccct gtctgaacgg aggtcgctgt 1200
gtggccctt accagtgtga ctgcccgcct ggctggacgg ggtctcgctg tcatacagct 1260
gtttgccagt ctccctgctt aaatggtgga aaatgtgtaa gaccaaaccg atgtcactgt 1320
ctttcttctt ggacgggaca taactgttcc aggaaaagga ggactgggtt ttaaccactg 1380
cacgaccatc tggctctccc aaaagcagga tcattctctc tcggtagtgc ctgggcatcc 1440
tggaacttat gcaaagaaag tccaacatgg tgctgggtct tgttttagta actgtttact 1500

tggggttact ttttttatct tgtgatatat tttgttatcc cttgtgacat actttcttac 1560
atgtttccat ttttaaatat gctgtatatt tctatataaa aattatatta aatagatgct 1620
gctctacctt caaaaaatgt acatattctg ctgtctattg ggaaagtccc tggtagacat 1680
ttttattcag ttacttaaaa tgatttttcc attaaagtat attttgctac taaataaaaa 1740
aaaccgc

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1747

"BEE" DATA

(2) INFORMATION ON SEQ ID NO. 114:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1526 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

```

cgagcccaca ggccccggag tagcagcggg gaggcgggga gcccgcgggc cggagccgcc 60
cgggcgaggg gtggggggtg cggggccggc ccatccgtgg gggcgacttg agcgttgagg 120
gcgcgcgggg aggcgagcca ccatgttcag ccagcagcag cagcagcagc tccagcaaca 180
gcagcagcag ctccagcagt tacagcagca gcagctccag cagcagcaat tgcagcagca 240
gcagttactg cagctccagc agctgtctca gcagtcacca ccacaggccc gttgccatgg 300
tgtcagcggg ggtccccgcg agcagccaca gcagccgctt ctgaatctcc agggcaccaa 360
ctcagcctcc ctctcaacg gctccatgag gcagagagct ttgcttttac agcagttgca 420
aggactggag cagtttgcaa tgccaccagc caggtatgac actgccggtc tcaccatgcc 480
cacagcaaca ctgggtaacc tccgaggcta tggcatggca tccccaggcc tcgcagcccc 540
cagcctcaca cccccacaac tggccactcc aaatttgcaa cagttctttc cccaggccac 600
tcgccagtcc ttgctgggac ctctctctgt tggggctccc atgaaccctt cccagttcaa 660
cctttcagga cggaaccccc agaaacaggg ccggacctcc tctctacca cccccaatcg 720
aaaggattct tcttctcaga caatgcctgt ggaagacaag tcagaccccc cagaggggtc 780
tgagggaagc gcagagcccc ggatggacac accagaagac caagatttac cgccctgccc 840
agaggacatc gccaaaggaaa aacgcactcc agcacctgag cctgagcctt gtgaggcgct 900
cgagctgcca gcaaagagat tgaggagctc agaagagccc acagagaagg aacctccagg 960
gcagttacag gtgaaggccc agccgcaggc cggatgacag taccgaaaca gacacagaca 1020
ccagacctgc tgccctgaggc cctggaagcc caagtgtctc cagcattcca gccacgggtc 1080
ctgcaggctc aggcccaggc gcagtcacag actcagccgc ggataccatc cacagacacc 1140
caggtgcagc caaagctgca gaagcaggcg caaacacaga cctctccaga gcacttagtg 1200
ctgcaacaga agcaggtgca gccacagctg cagcaggagg cagagccaca gaagcagggtg 1260
cagccacagg tacagccaca ggcacattca cagggcccaa ggcagggtgca gctgcagcag 1320
gaggcagagc cgctgaagca ggtgcagcca caggtgcagc cccaggcaca ttccacagcc 1380
cccagggcag gtgcagctgc agctgaggaa gcaggtccag acacagactt ttccacaggt 1440
gcacacacag ggcacagcca agcttccagg cacagggagc ttcttcgggg cgcggtgttc 1500
agtttcaggc caccaggggc agggcc

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1526

"BIBL" 01/01/95

(2) INFORMATION ON SEQ ID NO. 115:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1205 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

```

cccgagaaaa accaatttaa tgcttctgtt ctcagcattt cacagcatgc aggactcaaa 60
tggatacaac agaagaaaac aacccacaat ttttgaaaa ccctttgtcc aatgattcat 120
atthttgatat ctattgacaa tcccttagaa ctttaaattc caaaaacaaa aaagtactgt 180
ggatctccct cgagccgaat tcggctcgag ggcggtcacc tggagatgag aaaggcccgc 240
ggggggggacc atgtgcctgt gtcccacgag cagccgagag gcggggagga cgctgtgccc 300
caggagccca ggcagaggcc agagccagag ctggggctca aacgagctgt cccggggggc 360
cagaggccgg acaatgccaa gcccaaccgg gacctgaaac tgcaggctgg ctccgacctc 420
cggaggcgac ggcgggacct tggccctcat gcagagggtc agctggcccc gagggatggg 480
gtcatcattg gccttaaccc cctgcctgat gtccagggtg acgacctccg tggcgccctg 540
gatgccacag tccgccaggc tgccggggga gctctgcagg tgggtccacag ccggcagctt 600
agacaggcgc ctgggcctcc agaggagtcc tagcacctgc tggccatgag ggccacgcca 660
gccactgccc tcctcggcca gcagcaggtc tgtctcagcc gcattcccagc caaactctgg 720
aggtcacact cgctctccc cagggtttca tgtctgaggc cctcaccaag tgtgagtac 780
agtataaaaag attcaactgt gcacgtttc cagaatgttc ttgctgtcgt tctgttgac 840
ctcttagtct gaggtcctct gacctctaga ctctgagctc actccagcct gtgaggagaa 900
acggcctccg ctgcgagctg gctggtgcac tcccaggctc aggtgggga gctgctgct 960
ctgtggtcag gcctcctgct cctgccaggg agcacgcgtg gtcttcgggt tgagctcggc 1020
cgtgcgtgga ggtgcgcatt gctgctcatg gtcccaacac aggtactgtg gagagccagc 1080
atccaacccc acgcttgacg tgactcagaa tgataattat tatgactgtt tatcgatgct 1140
tcccacagtg tggtagaaaag tcttgaataa acacttttgc cttcaaaaaa aaaaaaaaaa 1200
aaaaa

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1205

115: 1205 bp cDNA library

(2) INFORMATION ON SEQ ID NO. 116:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3968 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

123456789101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

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ggatatttcta aaacataaaag aggagaatta agtcagctgc agaacaatgg ggctgattct 60
tctgcttttt ctctggaaaaa tcttttcattg ctttttggtgg aaattttacct agaggttaca 120
accacaggat gtagcttggt ctcttatttg cttttttggg aaaccaatta agattaatac 180
aggataaaag aaaaaagcaa tctattcatt atataacaca gttgtttgta ttacttggtc 240
cctgcaaagg aaatctgttg aatgcttgca ttttgaattc ttttctaata gaacaaccaa 300
aaaaggcttc ttatggtgca gcaggaaaaa agatcatttt tatagctttg cattcttaac 360
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tgagatcatc ggcttaaaaag tatcctagga tggtaatgac ccagaagtat ttccagttgt 480
ctagtgggtg ggtatgcagg aatgagaagt gttttctttc catttcctgt tggacagggtg 540
gcaatcttag cagagccact atttgagggt gataactaaa gatgcaaata acatgactat 600
gccttctggt catcctagga ctatttgagg ttctccaaaa ccttgtaaga ggcatgtcag 660
gcatgcagta aaagcatcta caacttcagc tgggcactgg cagcataggt ctcatcttgg 720
accatacagt cccactttat agaagagggg ggaagttctc caaaacaata tccacaacaa 780
agtctgacct cactctgagg gagatgggaa gtgggaggaa gaaggactaa ccagctccct 840
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ggttggggcc aaggaagtga tgtcagtgtg acagaaggga gagttagacc tccagacgtc 960
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gccttatgta tattatccca aatccactgc atggtttaaa tacaggcact ggaatataaa1260
tgaaaaaggt cattacagtc actgactttc tgcaggacct taaacatttc tctttccacal1320
agtttccctc taatcatgtg tcaaacctct ctctctgacg ggaatgttgt gctataatga1380
atctgcataa cgottgggat tctaggagga aggaagggtc catggacatg taagtacagc1440
atattccctc cagtcttcta ggagggcaga gtgaatocca gaactggtaa gattgggaat1500
ctgagcattg ccactttaat cttagaatat ttatcatttt gacacatcct gttttttaga1560
gaggaaaaa aacacagttt ctgcattggg agtgtaaagc atacctgtt aggaacgtgt1620
tttgtaagac acatttggtt tgtcattcta gagcatgtca aactttgtac ttcaaaatat1680
atttagtatg attgttagtg gtaacatata tcaaggcttt gaattaaactg ttttatttaa1740
ttttcacaag aagcacttat tttagccata ggaaaaccaa tctgagctac aaatagttct1800
ttaaataaag cccaggttat ttagctattc tagaaagtgc cgacttcttt caagaagcag1860
gcattgtagg acagctgaga attatcacat agcctaaatt ctagcctggc agcaagagtc1920
acatctgaga tgtccaaaaa aaaaaaaaaa aaacacctga tctacattga aagggggtag1980
actaacgtat gtgagaccat tttcctattt gcagttacaa ggtaaagaa ctttgaagggt2040
cattcggtg ctaagaggca tgtcgaacac tctgtgtggc tctttcacag taaacctctc2100
taagagcaga agacacatgg ctgttagtgt ctgctgttag atttaatttc tcaaatataag2160
gcccttggt gcgtatcatt tcatccagtt ataaactagg gctcctgcaa gcacccccat2220
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agggcatttg aagtcattgt catcaaaaag aaatgattgt tttttgaaaa gctaaatgct2340
taaaatgctt ctagagggaa gtcgtggggc gtgtgctcat tctctttaa atcagggttg2400
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ccaacactgt attcccagaa acatgacct cgctgggtctt gggtccacat atcattggac2520
tctgggggac acaaagatgc ctgtgacact ttggtgttgc cgagttagtc aacaattatt2580

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ctgggaaaaa gcagaattga atttctctct agatgtccta ccaggggttg ccaagggcca2640
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 cagttactgt catccctcta tggttctaga aaaaatagta caaaaatgac aggtcatcct2760
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 aagctagact cctacagggt cctagagttt aagtaatttt tttgttatta atataggtaa3120
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 tacctgataa tgataatact caaaataaca acattcaaag gaaacacaaa gaaatcctgc3360
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 aattttttaa tcaaaagatt gtacttggcc ctgagttgaa aaaatttcaa aaatcaaaag3480
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 acaacccaaa atcaagcatt ttggttcaag tcaggatgac atgagtgggg acagaagctg3720
 tggcagtcac tcaataaatc tcatgggtcc tgaggaaaag acaggagtta acgtattaag3780
 tttctactat atgcaggaac tgtgttaaat attttacata agttttgata atagctaaca3840
 tttagctgagc acaaaatttg ggccctgatt tgtgctgagt atctttcaca gattactgct3900
 tttaatcagc agtccttggt agctaggtat gatcattatc cccatttata gattacggat3960
 gagattcg 3968

(2) INFORMATION ON SEQ ID NO. 117:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 798 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

gtaatgggaa atttgggtgtg ctgaatcttc ttctaggat attgatatat tccacgcttc 60
 tagtgggtat tctgggaatt ttaccctgct cagtatttgc cctagggtac tagaaagagg120
 agattgtcca aacttagcag tatggtccat ctctgttaga agtggaaatg tcatacaggal80
 tagcaaacac tcttgggttc tttttgccca ggcttgccca gagccggcaa cagcaacaaa240
 atgtggagga tgcaatgaaa gagatgcaaa agcctctggc ccgctatatt gatgacgaag300
 atctggatag gatgctaaga gaacaggaaa gagaggggga ccctatggcc aacttcatca360
 agaagaataa ggccaaggag aacaagaata aaaaagttag acctcgctac agtgggtccag420
 cacctcctcc caacagattt aatatctggc ctggatatcg ctgggacgga gtggacagat480

 ccaatggatt tgaacagaag cgctttgccca ggcttgccag caagaaggca gtggaggaac540
 ttgcctacaa atggagtgtt gaggatatgt aactttcctg aggtgtgtgg ggtggctggg600
 ctgtggtagt gggcataggc agcgagatat ccagtggtaa cagttgtctg tgctaataat660
 tggagcccac acagaccagc aacttgttga atgccagttt tgaccacaga agaataattcg720
 agacctgatg tttggattga ggtacctgta cttcttgggg tgttgacagc agcgggtgttt780
 ggtgggtttt cagaggaa 798

(2) INFORMATION ON SEQ ID NO. 118:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1068 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

cccctctctg tgactcagtc tctgagcgtt ttaatacagat ggtgtccccg cgggatcaaaa 60
 cttcagcgtc acagctgagg actggcttcg tgggtccctga tgggagagca tgaacagggtg 120
 gtatgtgaag cccttgagga ccagctcttc caaagtcaaa gccaaagacca ttgtgatgat 180
 tcccgaactcc cagaagctcc tgcgatgtga acttgagtc aactcaagagcc agttacaggc 240
 ccagaccaag gctttcagat tcctgaacca ctacgtgacc atgttggaga aggagagctg 300
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 gaaatgccgc aaaatcctga ccaagatgaa gcagcagggt catgagacag ccgcctgtcc 720
 ggagactgaa gagataccgc aggagccagt ggctgttggg aggatgacct ccagaaggaa 780
 ctgagtata tatggtctgc tgtgcacgtg ctgcagaact ccatagacag cctcaactttg 840
 tgctcggggg cctgtcccaa ggcctcgagc ctaagaggcc acaaggggca ccagtgcctg 900
 agccctccac tcccctcctg ggactctgac tccgactctg accaggacct ctcccagcca 960
 cctttcagca agagcgcgcc ccccttccca cccgcttgag cagccgggac tgctctccct1020
 gaagaccctt ccagagagaa aataaactag cccagaccct cctctaaa 1068

"BEEB" 000000

(2) INFORMATION ON SEQ ID NO. 119:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 4584 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

- (iii) HYPOTHETICAL: NO

- (iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

ctcgagccgc	tcgagccgcg	gaagtaattc	aagatcaaga	gtaattacca	acttaatggt	60
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agctgaccca	ggtgctacac	agaagtggat	tcagtgaatc	taggaagaca	gcagcagaca	180
ggattccagg	aaccagtgtt	tgatgaagct	agggcttggg	gcaagagggc	aagcagcagt	240
tgggtggtgaa	gataggaaaa	gagtcagga	gccagtgcca	tttggtgaag	gaagctagga	300
agaaggaagg	agcgctaacg	atttggtggt	gaaaagagga	attgggagtg	gtaggatgaa	360
acaatttgga	gaagatagaa	gtttgaagtg	gaaaactgga	agacagaagt	acgggaaggc	420
gaagaaaaga	atagagaaga	tagggaaatt	agaagataaa	aacatacttt	tagaagaaaa	480
aagataaatt	taaacctgaa	aagttaggaag	cagaagaaaa	aagacaagct	aggaacaaaa	540
aagctaaggg	caaaatgtac	aaacttagaa	gaaaattgga	agatagaaac	aagatagaaa	600
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tgaggaaatt	attggtaacc	aattttatttt	aaaagcccat	caatttaatt	tctgggtggtg	780
cagaagtttag	aaggtaaagc	ttgagaagat	gagggtgttt	acgtagacca	gaaccaattt	840
agaagaatac	ttgaagctag	aaggggaaagt	tggttaaaaa	tcacatcaaa	aagctactaa	900
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ttggaaggcc	ttaaatatag	tagcttagtt	tgaaaaatgt	gaaggacttt	cgtaacggaa	1020
gtaatttcaag	atcaagagta	attaccaact	taattgtttt	gcattggact	ttgagttaag	1080
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tttatagaaa	ctagagcagt	tctcacgttg	aggtctgtgg	acagagtgtc	cattggagaa	2160
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ccccttaaac	ttgttatttt	ttacttgaag	catttttggga	tgggtctaac	aggggaagaga	2280
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 tacctccatt ggggaataag cataaccctg agattcttac tactgatgag aacattatct3300
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 attttaaagt taattgcttg tcaagctata accacaaaaa taatgaattg atgagaaata3420
 caatgaagag gcaatgtcca tctcaaaata ctgctttttac aaaagcagaa taaaagcgaa3480
 aagaaatgaa aatgtttacac tacattaatc ctggaataaa agaagccgaa ataaatgaga3540
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 gcaggcagct gttaacagat aagtttaact tgcattctga gtattgcatg ttagggataa3720
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 gacttgttcc tgtgggcttc agtgatggga tagtacactt cactcagagg catttgcac3900
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 atttaataaa aatagtgttt gtctgtagtt cagtgttggg gcaatcttgg gggggattct4200
 tctctaattc ttcagaaact ttgtctgoga acactcttta atggaccaga tcaggatttg4260
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 ttfgcatgtt aactttaaat gottacaatc tttagagtgg aggcaatgtt ttacactatt4560
 gaccttatat aggaaaaaga tgag 4584

(2) INFORMATION ON SEQ ID NO. 120:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 982 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

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gtggagggga ccctgtggtt agcagcagct atcgcagcgt cggatgttca gagcagcaga 60
agccggcgctc gtcggatggt gtgttgcccg ccaccatgag ctacacaggc tttgtccagg120
gatctgaaac cactttgcag tcgacatact cggataccag cgctcagccc acctgtgatt180
atggatatgg aacttggaac tctgggacaa atagaggcta cgagggtat ggctatggct240
atggctatgg ccaggataac accaccaact atgggtatgg tatggccact tcacactctt300
gggaaatgcc tagctctgac acaaatgcaa acactagtgc ctcgggtagc gccagtgcg360
attccgtttt atccagaatt aaccagcgct tagatatggt gccgcatttg gagacagaca420
tgatgcaagg aggcgtgtac ggctcagggtg gagaaaggta tgactcttat gagtcccgcg480
actcgagggc cgtccctgagt gagcgcgacc tgtaccggtc aggctatgac tacagcgagc540
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gcatgcgtgg caacgacacc ttcgggtccc gggcacaggc ctggggcccg gatgcccggg660
gcggccggcc aatggccgca ggctatgggc gcatgtggga agaccccatg gggggccggg720
gccagtgcac gtctgggtgc tctcggttg ccctccctct tctcccagaa catcatcccc780
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ttggttttcg ggtttggaac tggcatgaag cagatgaggg cggactggga agacggggac900
cacagccgat ttgcgaacca agaagaagaa gagaaagcag ggcggcattc tgattgagcc960
agttagcaaa gcagccggaa tt                                     982

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(2) INFORMATION ON SEQ ID NO. 121:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 742 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

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ctcaacttgc cactactgcg tgcctcaagc cgacgcagcg gcctactctc gcaactgcaga 60
cggggaaaact gagggccgag gcggccgggg tggggcagac ctcccggcga gcccagagccc120
ccgcccccggt ctagccccgc cctggcccggt aagaagcacc cggggcgaga ggcgaagggc180
cacagcgcggt ggccaggctg ggtccagcag cgcgatggca gctcagcggc tgggcaagcg240
cgtgctgagc aagctgcagt ctccatcgcg ggcccgcggg ccagggggca gtcccggggg300
gctgcagaag cggcacgcgc gcgtcaccgt caagtatgac cggcgggagc tgcagcgggc360
gctggacgtg gagaagtga tcgacgggcg cctggaggag ctgtaccgcg gcatggaggc420
agacatgccc gatgagatca acattgatga attgttgag ttagagagtg aagaggagag480
aagccggaaa atccaggagac tcctgaagtc atgtgggaaa cctgtcgagg acttcatcca540
ggagctgctg gcaaagcttc aaggcctcca caggcagccc ggccctccgc agccaagccc600
ctcccacgac ggcagcctca gcccctcca ggaccgggccc cggactgctc acccctgacc660
ctcttgcaact ctccctgccc ccgggacgccc gccagccttg cttgtgtata agttgtattt720
aatggttctg taacaataaa aa

```

742

(2) INFORMATION ON SEQ ID NO. 122:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2330 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

ESTED 04-11-1999

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

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gtttggacaa gttgttttaa taggaaatag acctgcgtgc ttcataaggtt tcctcaacca 60
cctttcctca gctttcttaa aatgggatct acattggctc ttcacaccca aatagcagac 120
taatcgtttt totgcttagc accgtctggt tcattgtctt gaactctgcc ttacagcagc 180
aagaaaatth tcctcgacaa gaacctcaat ctttagttcc attgagctcc cctcttggt 240
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aagggcagag accctggaag tggaggtggc tgtgtgctgc gatgggaaga aggcagaagg 480
cccaggggct ttggacatag agcaggggtg aagctgcaag tactgggaag gaagagagtt 540
tcacagaaac aaagctttgt cacacagaaa tgagttctgt ctactggtg acttcatccc 600
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ttagagaggt ggttttccat gaatcagcca agattcctgt agaagttggg tatacctatt 1500
ccagtttcaa agctcctcgg ctatgctaact gtcccctcag agatgaggt tgacttttag 1560

gcccgtatga ctctccata gcctggccaa ggagaccatg agtagccatg tctggtttac 1620
tctttatcct gagactgttt gtttatagct taaaacagaa gtgtgtcttc ccagcacaaa 1680
cctaatacat cagtgtatca gtgcatctgg tggcaacagc tcagcccatt caaagagcaa 1740
ggattcagga aaggcacact gatggtgggg agcctcttaa gaggccteta tggtctccca 1800
aaaccagagt tgagagtgg agtgccagtc gtcggggccc actattcctg aataagggac 1860
atgcaagggc cagaagtagc ttgactctcg cctaaatata tgtgcctttg cctgtccttt 1920
ctccactct actgaaaccc ggaacagatt ccgcttgcc ttctgatgaa gagaggttag 1980
gtaaagagag tttggaggaa aaaagacacc aggaggcagg ctgtggggta ggagaggggt 2040
ctgagaggag gcagcaatcc agaatacctc cttttctagc cagcatccct tgaacttttg 2100
aaaggtttgt cctaccactg gctggcacac cagggcaatg atttccctgc agaaggaagg 2160
aaagaatggt ttcacccttg catccttctt gggagaagct accagcctgt tgcttcagtt 2220
tgagttgggt tcacattcag gatthttggg ttttatgggt tttccttct ccctgtgttt 2280
tgccccgaac gttgatcaac aggggtgaaa aagggccacc tgaggggttc 2330

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"BEEB" "BEEB" "BEEB"

(2) INFORMATION ON SEQ ID NO. 123:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1860 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

```

gaggcagttt gagatcacca gcatttccgt ggatgtctgg cacatcctgg aattcgacta 60
tagcaggctc cccaaacaaa gcctcgggca gttccatgag ggggatgcct atgtgggtcaa 120
gtggaagtcc atggtgagca cggcagtggt aagtcgccag aaggagagag actcgggtgag 180
ggcagccggc aaagagaagt gcgtctactt cttctggcaa ggccggcact ccaccgtgag 240
tgagaagggc acgtcggcgc tgatgacggt ggagctggac gaggaaggag gggcccagg 300
ccaggttttc cagggaaagg agccccctg tttcctgcag tgtttccagg gggggatggt 360
ggtgcactcg gggaggcggg aagaggaaga agaaaatgtg caaagtgagt ggcggctgta 420
ctgcgtgcgt ggagaggtgc ccgtggaagg gaatttgctg gaagtggcct gtcactgtag 480
cagcctgagg tccagaactt ccatggtggt gcttaacgtc aacaaggccc tcatctacct 540
gtggcacgga tgcaaagccc aggccacac gaaggaggtc ggaaggaccg ctgcgaacaa 600
gatcaaggaa caatgtcccc tggaaagcag actgcatagt agcagcaaag tcacaataca 660
cgagtgtgat gaaggctcgg agccactcgg attctgggat gccttaggaa ggagagacag 720
gaaagcctac gattgcatgc ttcaagatcc tggaaagttt aacttcgcgc ccgcctggt 780
catcctcagc agtcctctg gggattttg agccacagag tttgtgtacc ctgcocgagc 840
cccctctgtg gtcagttcca tgccttctc gcaggaagat ctgtacagcg cgcocagcc 900
agcacttttc cttgttgaca atcaccacga ggtgtacctc tggcaaggct ggtggcccat 960
cgagaacaag atcactggtt ccgcccgcac ccgctgggac tccgaccgga agagtgcgat 1020
ggagactgtg ctccagtact gcaaaggaaa aaatctcaag aaaccagccc ccaagtctta 1080

ccttatccac gctgggtctg agccocctgac attcaccaat atgtttccca gctgggagca 1140
cagagaggac atcgttgaga tcacagagat ggacacggaa gtttccaatc agatcaccct 1200
cgtggaagac gtcttagcca agctctgtaa aaccatttac ccgctggccg acctcctggc 1260
caggccactc ccggaggggt cgtatctctg aagcttgaga tctatctcac cgacgaagac 1320
ttcgagtgtg cactagacat gacgagggat gaatacaacg ccctgcccgc ctggaagcag 1380
gtgaacctga agaaagcaaa aggcctgttc tgagtgggga gacgccagag gaggctcacg 1440
gtcacgtcca acaacaccac tgcaccaggg aaatggatat atatttttgg actggtgttt 1500
ttcaciaagt atttttcaat cagagttttc agaacctgac attgttaaag atactgctgt 1560
tcccggagtt gtgtattttg taaatgttca agggaaactg ttggaaactt ctttccacca 1620
ttcaggaggt tatcagaatt aataaaaagta tctgttatgt gcaacttaagc cgcagctgct 1680
atagatagca ctgccttctt gttccagcta ggcaatgcct tttttttttt tttgaagcag 1740
ttctctttat aaagtgttat tttgatagtt tgtggattct aaaataccat ataagtcaaa 1800
tatggattta acaaagcaat atgtattcat tcactttcga gatgtggggg gttgtttttt 1860

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"B999" B999

(2) INFORMATION ON SEQ ID NO. 124:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 807 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

```

cctttcctca tctctattaa attgtaaaca ggactactgc atgtactctc tttgaggtga 60
atttggaatg gaaggccagg gactatactc tttttaaaat agacatttgt ggggctcaca120
caatatatga aatagtaccc tctaaaaaag agaaaaaaaa aatcaggcgg tcaaacttag180
agcaacattg tcttattaaa gcatagttaa tttcactaga aaaaatttaa tatcaaggac240
tattacatac ttcattacta ggaagtctct tttaaaatga cacttaaaac aatcactgaa300
aacttgatcc acatcacacc ctgtttatct tccttaaaaca tcttggaagc ctaagcttct360
gagaatcatg tggcaagtgt gatgggcagt aaaataccag agaagatgtt tagtagcaat420
taaaggctgt ttgcaccttt aaggaccagc tgggctgtag tgattcctgg ggccagagt480
gcattatgtt tttaaaaaat aatgacatat gtcacatgtt tgcattgttg tttgcttgtt540
gaatttttga acagccagtt gaccaatcat agaaagtatt actttctttc atatggtttt600
tggttcactg gcttaagagg tttctcagaa tatctatggc cacagcagca taccagttt660
ccatcctaag aggggaatgga aattaatttt gtaacctact gattaacaga atctgggggt720
cacattggaa aaaaattctt ttatcgtctt ttaaggata tgtttaaata ttattttatg780
tgtcggcata ttgcggacag totgaga
807

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(2) INFORMATION ON SEQ ID NO. 125:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1932 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:

ccgggggtttt gggctggaac tgcagcgctt agagagctcg gtggaagctg cttaaaggcgg 60
 agggcggggct ctggcgagtt ctcttccac cttcccccac ctttctctgc caaccgctgt 120
 ttcagccccc agctggattc cagccattgc tgcagctgct ccacagccct tttcaggacc 180
 caaacaaccg cagccgctgt tcccaggatg gtgatccgtg tatatatattgc atcttctctt 240
 ggctctacag cgattaagaa gaaacaacaa gatgtgcttg gtttctctaga agccaacaaa 300
 ataggatttg aagaaaaaga tattgcagcc aatgaagaga atcggaagtg gatgagagaa 360
 aatgtacctg aaaatagtcg accagccaca ggttaccccc tgccacctca gattttcaat 420
 gaaagccagt atcgcgggga ctatgatgcc ttctttgaag ccagagaaaa taatgcagtg 480
 tatgccttct taggcttgac agccccacct ggttcaaaag aagcagaagt gcaagcaaa 540
 cagcaagcat gaaccttaag cactgtgctt taagcatcct gaaaaatgag tctccattgc 600
 ttttataaaa tagcagaatt agctttgctt caaaagaaat aggcttaatg ttgaaataat 660
 agattagtgt ggttttcaca tgcaaacatt caaaatgaat acaaaattaa aatttgaaca 720
 ttatggtgat tatggtgagg agaatgggat attaacataa aattatatta ataagtagat 780
 atcgtagaaa tagtggtgtt acctgccaag ccatcctgta tacaccaatg attttacaaa 840
 gaaaacaccc ttccctcctt ctgccattac tatggcaact taagtgtatc tgcagctcta 900
 cattaataaag gagaaagaga aataacctgt ctctcattcc taagttgcct cattaatttt 960
 catgaacaag aatatgtacc tttttgatgc tatattactg cgattaaaaa gttcttgcag1020
 gtaatgttta tgatatgtta aacgttgtaa tttcttatcg taattataac attcccattc1080
 tttttagatg gaaacttcta catattgaac cacagatttt ctgagcttct aaatgtagcc1140
 tttcattgca catttcagtg atcagaatag atatcctttt acacgcacaa aagcaatagal200
 ttcattcagt ggacaagttc cttgtttaac tacacagcta tgatggaatg atatatccaal260
 gttccttgcc tcagtgaat atgcatatgt atatcatgaa agtgggatgc caagtaagct1320
 taaaatggca ttctctagca aagagattag actttttaa aactcttata aaacaggttg1380
 gcgatcattt cccaagattg gtttcccttg agtttttgct aaaacaaatc ttagtagttt1440
 tgcccgttta aaacaactca caatcgtaaa tgctactatt cctaagatat cttacctttt1500
 tatttcagtt tagccatgta ttgtatgagt gtattagtct aagcagtgag aatcttttct1560
 atgcctctat tccagcaaaa agtagaagta tcaaaataaaa agggcaactt ttaaaatatt1620
 aagcctgaag acttctaaaa agacaagaaa catggcctaa ataaccaaca tagatttaca1680
 tagtaagttt cacactacct tattacaaa agcaaacacc tcttacttta aactacattal740
 tcatgtatat ctattgtatg ctggtcttta ctttttgcca aaatcaacat ataatgaaga1800
 gatgcctttg tttcatgaga ttcaaaactg atgctatgct ttaaaataaa ctcagtactt1860
 ttagaaacat aaaaaaaaaa aaaaaaaggc gacccccga gtagtgggcc cgcgcccggg1920
 gatttttccg gg 1932

T 12522 04922 04922

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:

atatatgttta	agacattccc	ttgtctaatta	ttttcttctc	tgttgtttcta	tttttttgggt	60
ccagtttgct	gttttttaaag	ttttgagtc	cagctggtcc	tgtacatttta	actgaaaaaaa	120
aagtaactta	aaataatata	aaaatagcac	tcatgtatgt	cctacagtta	taggtgaaat	180
ttgataattgt	ttgtctttaca	tagcatacct	atagacagct	taagtaaagt	gactgttaag	240
agggttatgc	ttattgatga	actcttgtag	ttgtttacca	gctctgttag	tatagttaaa	300
ttgatctcag	tagcttcaag	tattttataaa	atggttgaag	tccaaataca	tgtgataatt	360
acaatacact	ttgaattaat	ggggggtggg	aggctagttg	aaatgcattt	tattttaccca	420
aggagtatgt	taaaatgata	gtttataaatg	ttggaagttt	aaagcaagat	actcagttta	480
gttcttttaca	aatcataaga	agaacaaaaa	tagatgttga	cattgctatt	ttaggctgtg	540
tgttttccat	atgcttcttg	ctttccctgt	cacaggtggt	ggcagcaata	ttgggtgtgat	600
tgaggttatg	ctggccaccac	tcgcacacag	gcgcacaatg	gtgttagctg	ggcagaaaaga	660
gtggcatctc	tggctaccgg	gctggggcg	accctttacca	taggatgaag	taaccttgca	720
ttcggctgca	aggtgtactg	tacgtacaca	ggtgctggtc	gatgtccact	ttctgctttt	780
ctttctttct	ttttttcttt	tttaaagtaa	tttccccac	agtaaaatac	actgactcct	840
gagtaaattg	attttccagt	tttatggaat	tgggagtctg	acaagtga	ccaattta	900
gtaaagtatt	tggctttcaa	atggtttctc	tgtgctattt	tttggaattc	tttcagattc	960
cagagatata	ttacgtcttt	gattcaattt	aaaatttgta	cttattttct	tttagaaata	1020
atgtattgtg	tctgtgcaga	aaaaaaaaaa	ccaaaaagga	ttgctttact	ccaagaggag	1080
agattgtctt	aggataaaac	tccaagctca	catttaatat	aacagactga	agtaaacatt	1140
agaatcctgt	ttagagctat	tctgcacagt	taactactga	tctttagaat	ctaaaattgt	1200
atatgaactt	attcttaaat	aattgacacc	ttttatatc	aatgacttta	tgatcgtggt	1260
tagtttgga	aaaataagat	gggtaaattt	tgtattattg	aaatgtaatt	gtattatttt	1320
cataaaaatag	catttttcatt	ttgtaatgtg	gtttaacatc	cttgttgttt	gccaaagaaa	1380
tttcatttgg	ctgtgaatat	tctatttgct	tgcagtatct	gtttctcttc	ctaggctca	1440
gttggtgacc	caagcctatt	gtaaacaagt	gattatctca	aaggagatg	ccaatggagt	1500
aacaatttgt	taaccttacg	ttttctgtct	gtatattttt	ttaaaaatct	ggtagtttct	1560
ggaaaaaaaa	gagaaggggg	tttgtagtac	ttaaccttat	ttatttccgt	atattttagt	1620
taattagttt	ttggaataaa	tggatttcag	tatagctttg	tggttaaatt	gcattgcctt	1680
tattttatgt	ttaggcttat	ttttaaatta	acatttaaca	gaaacatttg	aaatagaatt	1740
tgcattgtctg	ccttaattaa	cttaaagact	gattttaatc	tgactatgac	actgagcata	1800
ttcttttaaat	tactcataat	ttataatgct	taatataatc	ttaatttaaat	ttagcagttt	1860
tagtataaga	tgtgccattt	tgtcctctgt	atgtctgaat	gaagctataa	catttgcctt	1920
tttattgcag	gtttttccctt	ggaattatgga	taaatcaccc	atgatacggg	aactagaagg	1980
acatcaccat	gagtgtggtag	cttgtgactt	ttctcctgat	ggagcattac	tggctactgc	2040
atcttatgat	actcgagtat	atatctggga	tccacataat	ggagacattc	tgatggaatt	2100

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tgggcacctg tttccccac ctactccaat atttgcctga ggagcaaata accggtgggt2160
acgatctgta tcttttagcc atgatggact gcatgttgca agccttgctg atgataaaat2220
ggtagaggttc tggagaattg atgaggatta tccagtgcga gttgcacctt tgagcaatgg2280
tctttgctgt gccttctcta ctgatggcag tgttttagct gctgggacac atgacggaag2340
tgtgtatttt tggggcactc cacggcaggt ccctagcctg caacatttat gtcgcatgtc2400
aatccgaaga gtgatgccca cccaagaagt tcaggagctg ccgattcctt ccaagctttt2460
ggagttttctc tcgtatcgta tttagaagat tctgccttcc ctagtagtag ggactgacag2520
aatacactta acacaaacct caagctttac tgacttcaat tatctgtttt taaagacgta2580
gaagatttat ttaatttgat atgttcttgt actgcatttt gatcagttga gcttttaaaa2640
tattatttat agacaataga agtatttctg aacatatcaa atataaattt ttttaaagat2700
ctaactgtga aaacatacat acctgtacat atttagatat aagctgctat atgttgaatg2760
gacccttttg cttttctgat ttttagttct gacatgtata tattgcttca ttagagccac2820
aatatgtatc tttgctgtaa agtgcaagga aattttaaat tctgggacac tgagttagat2880
ggtaaatact gacttacgaa agttgaattg ggtgaggcgg gcaaatcacc tgaggtcagc2940
agtttgagac tagcctggca aacatgatga aaccctgtct ctactaaaaa taaaaagaa3000
aaaaaaaaaa aactcgaac tact
3024

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(2) INFORMATION ON SEQ ID NO. 127:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 505 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:

```

ctgcacgggc gcagatgtag gcaccgggtcc gagtgccctgc cctctgtccc cgcggctggg 60
tctcgtctgc tccggttctt gggctcctaa ttcttggtcc agcttcttcc aggtctgcgc120
gtctgttggt cccagcgctc tgcgaagctg aaaaggagga gcaacctgtc cagaatcccc180
gcaggacagg aaaaggaggg gaaatctcga catggaaaaa ctctacagtg aaaatgaagg240
aatggcttca aaccaaggaa agatggaaaa tgaagaacag ccacaagacg agagaaagcc300
agaagtaact tgtactctgg aagacaagaa gttagaaaac gagggaaaga cagaaaacaa360
gggcaaaaaca ggagatgagg aaatgtttaa ggataaagga aagccagaga gtgagggaga420
ggcaaaagaa ggaaagtcag agagggaggg agagtcagag atggaggagg tcgagagaga480
gggaacccga ggtaggggaa gcgga
505

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(2) INFORMATION ON SEQ ID NO. 128:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 115 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:

PRLRLFFFY LRKFISTSTA EIRKWYRFGQ IILYEMDPHT TSFLIQARYN IIPGFSKSSQ 60
HGYLCYSVLA FIAASSFRRA FFSKFKLVKV SCLWAAFLPS ITMKMHPTTV RAIIR 115

(2) INFORMATION ON SEQ ID NO. 129:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 82 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:

VRDGAPGLSC GFVQNPFILF KSELLVSLRD EETSLSHNLK QLPAARRRPL RLPATCYSA60
DQRRTSPGTV ALVSSMSPSV GV 82

(2) INFORMATION ON SEQ ID NO. 131:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 53 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:

GIITLSLLMI IHPQMEEFIR QPLQFRLKTG AHRTQGTIKE DQEPFFLSK NWP 53

(2) INFORMATION ON SEQ ID NO. 132:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 52 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:

LFILRWRSLS VSHFSFVLKQ EPTGPKELLR RTRNLGFFFQ KIGSPINEG KN 52

(2) INFORMATION ON SEQ ID NO. 133:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 41 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 133:

KKKPRFLVLL NSSLGPVGSC FKTKLKWLTQ KLLHLRMNNH Q 41

"00000" 00000 00000

(2) INFORMATION ON SEQ ID NO. 134:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 107 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 134:

ADPAFSTDLF QGCTDMAAAF RKAAKSRQRE HRRSSDYRK KQEYLKALRK KALEKNPDEF 60
 YYKMTRVKLQ GGVHIIKETK EEVTPEQLKL MRTSGRQIYR KGRGCRS 107

(2) INFORMATION ON SEQ ID NO. 135:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 63 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 135:

RIRRSPLIFS KAVQTWRRLF GRRLSPGSGN TESEAVTTVK NKNTSKLFGR RLLKKIQMNS60
 TTK 63

(2) INFORMATION ON SEQ ID NO. 136:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

"B3E495D"

(vi) ORIGIN
(A) ORGANISM: HUMAN

LFWGYFFLSL LNNMYSTLEF NPSHFVVEFI WIFFKSLLPK SFEVFLFFT V TATSLSVFPL60
PGLSRLPKSR RHVCTALEKI SGERRIR 87

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 95 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

EANNYMSCQG GSRFHSFSIL PQYPGINAAT GGQSLEVLLP TPSLFCLFNS VKLFCLGPGK60
EPKENLSGOV HEWNAENILK ARFLEYSOLA FFPLI 95

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 77 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

NSSASSPQFW PNSRLAVFTW YPGVGLLTLI SMMFSKMKLD KVDHQLHRVF CKSIVSKWPR60
DLRKIQIFCL PWSCFKS 77

(2) INFORMATION ON SEQ ID NO. 139:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 133 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 139:

DLKQDQGKQK ICIFLKSLGH LLTILLQKTR CSWWSTLSSF ILENIIIEIKV SNPTPGYQVK 60
 TASLLLGQNC GLLAELFYGL QSKWSYLTHH MTKVLNLVRG KVLNIQFWIQ EIIIVNFPFK120
 SMERMLVENI LKI 133

(2) INFORMATION ON SEQ ID NO. 143:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 783 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 143:

FLLQPSAFHL YEPPLDYTMT WRMGPRFTML LAMWLVCSE PHPHATIRGS HGGRKVPLVS 60
 PDSSRPARFL RHTGRSRGIE RSTLEEPNLQ PLQRRRSVPV LRLARPTTEP ARSDINGAAV120
 RPEQRPAARG SPREMIRDEG SSARSRMLRF PSGSSSPNIL ASFAGKNRVW VISAPHASEG180
 YYRLMMSLLK DDVYCELAER HIQQIVLFHQ AGEEGGKVRR ITSEGOILEQ PLDP SLIPKL240
 MSFLKLEK GK FGMVLLKKT L QVEERYPPV RLEAMYEVID QGPIIRIEKI RQKGFVQCK300
 ASGVEGVVVA EGNDGGGGAG RPSLGSEKKK EDPRAQVPP TRESRVKVL R KLAATAPALP360
 QPPSTPRATT LPPAPATTVT RSTSRVAVTA ARPMTTTAF T TQRPWTPSP SHRPPTTTEV420
 ITARRPSVSE NLYPPSRKDQ HRERPQTRR PSKATSLESF TNAPPTTISE PSTRAAGPGR480
 FRDNRMDRRE HGHRDPNVVP GPPKPAKEK P KKKKAQDKIL SNEYEEKYDL SRPTASQLED540
 ELQVGNVPLK KAKESKKHEK LEKPEKEKKK KMKNNADKL LKSEKQMKKS EKKSQKEKEK600
 SKKKKGKTE QDGYQKPTNK HFTQSPKSV ADLLGSFEGK RRLLLITAPK AENNMYVQQR660
 DEYLESFCKM ATRKISVITI FGPVNNSTMK IDHFQLDNEK PMRVVDDDEL VDQRLISELR720
 KEYGMTYNDF FMVLTVDVLR VKQYYEVPIT MKSVFDLIDT FQSRIKDMEN QKRGVFFEGG780
 KTP 783

(2) INFORMATION ON SEQ ID NO. 144:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 144:

KMVVGWVVEL RWERMENLF QGNGFAAEVR MCSCIDLQTP RRWVHTACLG VPRDSRPPTY60
LSEARAAGHG PSAKPVCDAL GALVQEA 87

(2) INFORMATION ON SEQ ID NO. 145:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 97 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 145:

SFSSLGVRNT LFITFKFALY FFSSMLVLWT FGDVSVRAGE RGVRRPSHRW SWPPPALSSL60
PDHRFPICPS ENLSQGELKF TGQGTSTFIYF IMLANRT 97

(2) INFORMATION ON SEQ ID NO. 146:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

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(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 146:

ASCTKAPRAS HTGLAEGPWP AARASDKYVG GLESLGTPKH AVCTHLLGVC RSIQEHILTS60
AANFPWKRF SHILSHLKKT HTPPTIF 87

(2) INFORMATION ON SEQ ID NO. 147:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 119 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 147:

NSKDKCFSLA FITTPETERW RCCASEPRLL ALKHQGHRTQ AWQRGHGQRH ELQTSMLEVS 60
NPLAPPSMQC APTFWVSADR YRNTSLPLQR THFPGKDFHT SSPTSCKPTH PQPFFKAPR 119

(2) INFORMATION ON SEQ ID NO. 148:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 87 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 148:

STKGIAHRLG RGAMASGTSF RQVCWRSRIP WHPQACSVHP PSGCLQIDTG THPYLCSEPI60
SLEKIFTHPL PPQKNPHTN HFLKPHG 87

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(2) INFORMATION ON SEQ ID NO. 149:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 69 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 149:

DPPSHSQLGR CCHRMVFESV GARAHFWLSQ QLGWHLPSA RNSNIMNARD SVLSKVEHPK60
GAGHGCSRL 69

(2) INFORMATION ON SEQ ID NO. 150:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 68 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 150:

SAHLGLPKCW DYRREHPCPA PFGWKTLLST LSLAFIMLLF LALGSKCHPS CCDNQKCALA60
PTLSNTIR 68

(2) INFORMATION ON SEQ ID NO. 151:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 57 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 151:

(2) INFORMATION ON SEQ ID NO. 152:

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 152:

SAGIPKLAPK IPLPFSDLLK CYLISGAFPD HTLKTSTPTH GPCPPSRLHF LAYTYQM 57

(2) INFORMATION ON SEQ ID NO. 153:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 32 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 153:

32

(2) INFORMATION ON SEQ ID NO. 154:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 32 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 154:

TKRAVMKSMH LCAIRAF LVP HSELIDSDYI HF

32

(2) INFORMATION ON SEQ ID NO. 155:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 155:

GRVRAVKGRH SDRSHSQQCF QSVNTDEVPT T

31

(2) INFORMATION ON SEQ ID NO. 156:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 52 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 156:

VQNVMSACNF IFIKAKLIYM EYCSIYYAPI YILSPVVRYF ISLLLNIIFYT YL

52

(2) INFORMATION ON SEQ ID NO. 157:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 59 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 157:

TGTFCEFFICC IENSHTQFSI LCQCSHHGWT LGRNSPQPFL VSFSQFFSVS RWAPVINLP 59

(2) INFORMATION ON SEQ ID NO. 158:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 38 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 158:

LSLCPCWPGN FFQWCLLEEV FSSGQFKEIK LGNGEGGR

38

157-158-159

(2) INFORMATION ON SEQ ID NO. 159:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 33 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 159:

GSILDMMQEI SSWSQKFPRG AVFLRNGVYL NNS

33

(2) INFORMATION ON SEQ ID NO. 160:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 44 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 160:

KKLPGQHG HK LNYLNLK LHF LKIQHLLGTF DSRKRFPASY PKCF

44

(2) INFORMATION ON SEQ ID NO. 161:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 225 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

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- (vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 161:

AAGGLGLGVG PRGMWRAGSM SAELGVGCAL RAVNERVQQA VARRPRDLPA IQPRLVAVSK 60
TKPADMVIEA YGHGQRTFGE NYVQELLEKA SNPKILSLCP EIKWHFIGHL QKQNVNKLMA120
VPNLFMLETV DSVKLADKVN SSWQRKGSPE RLKVMVQINT SGEESKHGLP PSETIAIVEH180
INAKCPNLEF VGLMTIGSFG HDLSQGPNPD FQLLLSLPEE TVVKS 225

(2) INFORMATION ON SEQ ID NO. 162:

- (i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 99 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 162:

CRGPGARRRS PGDVESWQHV GRAGSRVRIA GGERARAAGC GAAAAGSPSH PAPASGGQQN60
QTCRHGDRGL WTWAAHFWRE LRSGTARKSI KSQNSVFVS 99

(2) INFORMATION ON SEQ ID NO. 163:

- (i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 120 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 163:

LRSCPCLPMV ISPTNSRLGH LAFMCSTMAM VSEGGRPCLL SSPLVLIWTI TFNLSGEPFL 60
CQELFTLSAN FTESTVSSMK RLGTAINLLT FCFCRWPMKC HLISGHKDRI LGFDAFSSSS120

"BIOBASE" 2000

(2) INFORMATION ON SEQ ID NO. 164:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 75 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 164:

TSTGPSSPLV ASAATELA AF AAFSSACMR PEGSASLFWN RLPLLMFGDL QGCEAREGIA60
 MRILQASFSG LSSKG 75

(2) INFORMATION ON SEQ ID NO. 165:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 165:

NTHGDALTCL TPLQVPKHEE GKAIPKQRGR TFRAHTCRAK GSGKSCQFSC SRGYQGAGGT60
 SAGLALYLHT RTAASRGTS SPVGSVAPQQ 90

(2) INFORMATION ON SEQ ID NO. 166:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 77 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

TSTGPSSPLV ASAATELA AF AAFSSACMR PEGSASLFWN RLPLLMFGDL QGCEAREGIA60

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 166:

SHPFEDSPEK EACKIRMAMP SRASHPCRSP NMRRGRRFQN REAEPGRIH AELKAAAKAA60
SSVAAEATRG LEGPVLV 77

(2) INFORMATION ON SEQ ID NO. 167:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 347 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 167:

TAFPLPVVVA AVLWGAAPTR GLIRATSDHN ASMDFADLPA LFGATLSQEG LQGFLVEAHP 60
DNACSPIAPP PPAPVNGSVF IALLRRFDCN FDLKVLNAQK AGYGAAVVHN VNSNELLMV120

WNSEEIQQQI WIPSVFIFER SSEYLRALFV YEKGARVLLV PDNTFFLGYY LIPFTGIVGL180
LVLAMGAVMI ARCIQHRKRL QRNRLTKEQL KQIPTHDYQK GDQYDVCAIC LDEYEDGDKL240
RVLPCAHAYH SRCVDPWLTQ TRKTCPIKQ PVHRGPGDED QEEETQGQEE GDEGEPRDHP300
ASERTPLLGS SPTLPTSFGS LAPAPLVFPG PSTDPPLSPP SSPVILV 347

(2) INFORMATION ON SEQ ID NO. 168:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 588 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 168:

QVTNMSDKSE LKAELERKKQ RLAQIREKK RKEEERKKKE TDQKKEAVAP VQESDLEKK 60
 RREAELLQS MGLTPESPIV PPPMSPSSKS VSTPSEAGSQ DSGDGAVGSR RGPIKLGMAK120
 ITQVDFPPRE IVTYTKETQT PVMAQPKED EEDDDVVAPK PPIEPEEEKT LKKDEENDSK180
 APPHELTEEE KQQILHSEEF LSFFDHSTRI VERALSEQIN IFFDYSGRDL EDKEGEIQAG240
 AKLSLNRQFF DERWSKHRVV SCLDWSSQYP ELLVASYNNT EDAPHEPDGV ALVWNMKEYKK300
 TTPEYVFHCQ SAVMSATFAK FHPNLVVGST YSGQIVLWDN RSNKRTPVQR TPLSAAATH360
 PVYCVNVVGT QNAHNLISIS TDGKICSWSL DMLSHPDQSM ELVHKQSKAV AVTSMSFPVG420
 DVNNFVVGSE EGSVYTACRH GSKAGISEMF EGHQGPITGI HCHAAVGA VD FSHLFTSSF480
 DWTVKLWTTK NNNKPLYSFED NADYVYDVMW SPTHPAFAC VDGMRDLW NLNNDTEVPT540
 ASISVEGNPA LNRVRWTHSG RGGGCGGILK DKFCYFAMLG GAVCWSPQ 588

(2) INFORMATION ON SEQ ID NO. 169:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 41 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 169:

FHVEQLSHSF LSWRKDTIQR GSKDFVKRGI HNLLWSKCPH L

41

(2) INFORMATION ON SEQ ID NO. 170:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 55 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 170:

CPRDVGTCSE VNYGCHVLQN PYCPFELCPS SKIRSYDSIV QHGIIMKSLS SSIFP

55

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(2) INFORMATION ON SEQ ID NO. 171:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 50 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 171:

KAFVLVSFPK WALFLVIHMT LFGCGCLLNF LFWTSFSKPK PARDRKGNGN

50

(2) INFORMATION ON SEQ ID NO. 172:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 60 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 172:

CTFNIESFIY LIVYRTFHNH THLLHNILTS IFKFFCTSSF SFNLVKPVIH TNVYCELSSEG60

(2) INFORMATION ON SEQ ID NO. 173:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 67 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

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(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 173:

EESFVFLIHS FVNRYKGTNV LTYTKKKKIL VYPLMLIHRV LSYNVIQLGS LTFFPKNIFI60
EKGITLS 67

(2) INFORMATION ON SEQ ID NO. 174:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 56 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 174:

LYHIIRKHSV DQHKWVHKNF FFLGVCKHIC SFISVYKTVN QKDKTFFLVF VIEFFLN 56

(2) INFORMATION ON SEQ ID NO. 181:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 289 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 181:

SRRTQGAAST RFPQPDITIGQ DFSASAQRGG LVAHSDLDER AIEALKEFNE DGALAVLQQF 60
KDSDSLHVQN KSAFLCGVMK TYRQREKQGT KVADSSKGPD EAKIKALLER TGYTLDVTTG120
QRKYGGPPPD SVYSGQQPSV GTEIFVGKIP RDLFEDELVP LFEKAGPIWD LRLMMDPLTG180
LNRGYAFVTF CTKEAAQEAV KLYNNHEIRS GKHIGVCISV ANNRLFVGS1 PKSKTKEQIL240
EEFSKVTEGL TDVILYHQP DKKKNRGFCF LEYEDHKTA QARRRLIEW 289

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(2) INFORMATION ON SEQ ID NO. 182:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 39 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 182:

KLCTEWLKV G GIWRWMRGSC LGRLCFTWIR VGLREEIGV

39

(2) INFORMATION ON SEQ ID NO. 183:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 42 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 183:

EAVMTLILIL HTYFLTQPYS NPSEAKPSQT APSHPSPYPP NL

42

(2) INFORMATION ON SEQ ID NO. 184:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 60 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

FBI/DOJ - 07/13/2011

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 184:

PSFSFYTPIS SRNPTLIQVK QSLPRQLPLI HLHIPPTFNH SVHNEFYSLHT SYLLIFLTNK60

(2) INFORMATION ON SEQ ID NO. 188:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 46 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 188:

RSRFHMMLTL RALQLSLPTK IGGACFRVSR LSPTEKKKKK MSLEEA

46

(2) INFORMATION ON SEQ ID NO. 189:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 65 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 189:

ITFSDAHAQ GASIIPPHKD RWRVFQGLSS LSyrKEKEKN VIRRGVTRQS VPREFVPGVA60
ERDQF

65

188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

(2) INFORMATION ON SEQ ID NO. 190:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 66 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 190:

ECREAGPLFL QSRLELISFG HSRKHKPGDG LTCYASSNDI FFFFSVGER RETLKHAPPI60
FVGRDN 66

(2) INFORMATION ON SEQ ID NO. 191:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 48 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 191:

RQTEGETEML RKPSYTTLP R NTSLRECKKY YWRWKS R KTA MGRRPRGD

48

(2) INFORMATION ON SEQ ID NO. 192:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 60 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

JUN 19 1993 10:55:49

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 192:

RAETRSQGQL NEDKLGKGLR CLESPAQLY PEILPLGNVK STTGDGRAEK QLWAEQGQVI60

(2) INFORMATION ON SEQ ID NO. 193:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 44 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 193:

SCIAGLSKHL SFPFSLSSLS CPWLRVSALQ LLPLRAFPFA SDLL

44

(2) INFORMATION ON SEQ ID NO. 194:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 98 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 194:

EIMNGLVLDN IWPBKLLTSV LGESHFVNHT SEIYMLNGE QRRSCCKRCI KYLCCFCMRL60
RSFSLSPFLF PIRISREAKL FCGFGNGHFP GKCIWIDD

98

195950 "DATE 2 959"

(2) INFORMATION ON SEQ ID NO. 195:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 115 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 195:

AHSSTKAKSK SEFLPILPLC NTLRSSHNCP TPHPVSCCT KPSLSFFRY IVRQGRRLR 60
 RRAFEALSTL PASVKMRLHY SPEKRARESH RSRCIFPGND HSQTHRTVWL LWISL 115

(2) INFORMATION ON SEQ ID NO. 196:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 128 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 196:

SGVKRISCVL ETKAYCHCFK KSLCEMKKNM TNTGSHTYTY IQRNLTCTH TGRYRHTVPP 60
 KRSPNQSSYR FYHSVILSEV PTTAQLHTYP FPAAQSLLS HLFDTSSTGRA EGHYAAEHSR120
 LSAHCQPA 128

(2) INFORMATION ON SEQ ID NO. 200:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 72 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 200:

RPGVEPPLLR RLPDSETQKR VQGWMWSE GRFAFEKGSS RTHWDIVTHL NHLLIERCWP60
PNNGRSGPGP RA

72

(2) INFORMATION ON SEQ ID NO. 201:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 77 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 201:

GPSPYARGPG PDLPLLGGQH LSIRRWFKCV TMSQCVLELP FSNANLPSLH ISPHPWTRFC60
VSESGNLLKR GGSTPGL

77

(2) INFORMATION ON SEQ ID NO. 202:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 60 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 202:

EANTFLSEDG SNVLQCPSVF SNFLSQMQTF PHSTSLPIPG PVSVSLSQAT FSKEGVPLPA60

"GAGTGGG" GAGTGGG

(2) INFORMATION ON SEQ ID NO. 203:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 84 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 203:

PTTTLVIPLF FLSSRK RKQK DSFQTALCSL HCSFPKQAAS TGKAHVVTYPY FSEVLLFHGV60
 TLLSESKFRK QVLPLADKNH TSFL 84

(2) INFORMATION ON SEQ ID NO. 204:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 128 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 204:

CDRVPLFLSY WCAVADSWLT ASSVSHVKGI LSPQPTCAP PGPANCFNFF FFFFFFFLVET 60
 GSPSVAQDGL ELLGSSNPPT LASQSAEITG MSHYAQPEQD DLNLINSTPK QQLSLSQGCQ120
 GGLCEGKD 128

(2) INFORMATION ON SEQ ID NO. 205:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 96 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

FBI/DOJ - JUNE 1997

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 205:

WVAGRRHLLS VQTKSLQVLG LDLCVTPESQ CIRYLYKKLV WFLSAKGKTC FLNLLSDNKV60
TPWKRRTSEK YGVTTWAFPV LAACFGKLQC RLQRAV 96

(2) INFORMATION ON SEQ ID NO. 206:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 49 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 206:

PDFRGFAGPA MFSRGEFQVGR GERQGENAPC RGVQRSPASC PAVGWTS DL 49

(2) INFORMATION ON SEQ ID NO. 207:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 56 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 207:

QISGVLRA PR CFPEVFKWEE ESDKVKMPRA GASSGVLP AV RRWGGRLIYE GAHPPI 56

2057384-2057384

(2) INFORMATION ON SEQ ID NO. 208:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 68 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 208:

CCSCQSSQVR YSDRWMGTFI NQTSTPPPD S WQDSAGRPGT GHFHLVALLF PLENLWKTSR60
GPQNPGNL 68

(2) INFORMATION ON SEQ ID NO. 209:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 164 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 209:

WGGRTLASAV SIPLRKCHSH RPTVLARKQP QSGVPPPYTA IASPDASGIP VINCRCVQSL 60
INLDGKLHQH VVKCTVCNEA TPIKNPPTGK KYVRCPCNCL LICKDTSRRI GCPRPNCRR120
INLGPVMLIS EGTSSACIA QSQPEGYKGR VLGHGWGTHS LWDG 164

(2) INFORMATION ON SEQ ID NO. 210:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 218 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 210:

SSAVPDGAVG RPVAVAVGGP PHSCRCRPCC LMAAIGVHLG CTSACVAVYK DGRAGVVAND 60
AGDRVTPAVV AYSENEIIVG LAAQSRIRN ISNTVMKVQ ILGRSSSDPQ AQKYIAESKC120
LVIEKNGKLR YEIDTGEETK FVNPEDVARL IFSKMKETAH SVLGSDANDV VITVPFDFGE180
KQKNALGEAA RAAGFNVRLR IHEPSAALLA YGVGQDSP 218

(2) INFORMATION ON SEQ ID NO. 211:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 186 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 211:

RKWTLTMSQ KRMLKRPDNK LKYVTKWQRT AKQITHPFSR NSTMSSMNIT ILTSPTSSRK 60
YKRAEERRIV RMGESMKTYA EVDRQVIPII GKCLDGIVKA AESIDQKNDS QLVIEAYKSG120
FEPPGDIEFE DYTQPMKRTV SDNSLSNSRG EGKPDCLKFGG KSKGKLWPF I KKNKLMSLLT180
GGPFSF 186

(2) INFORMATION ON SEQ ID NO. 212:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 60 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

2025-04-25 15:30:00

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 212:

ISGRRVSLNF VSEFSITEFC PCWCLGYRPD GPGSFPPSCSG LEVSPLHFLK ACVQCSPKSI60

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 68 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 213:

DLCSTLSATK GSITCFLNKA LVSPPASSGL HYSETNSTSF AGGITVPISR LGPALQTSFG60
LLVLLTLL 68

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 54 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 214:

TISFFKSKRG LKQEGTGTSS QMDLGEHCTQ ALRKCKGLTS RPEQDGKLPG PSQL 54

(2) INFORMATION ON SEQ ID NO. 215:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 276 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 215:

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LPTAFLLSSV FWIEMTWEL FFPOLAGAPF YFSFIFSIVA FLYFFYKTWA TDPGFTKASE 60
EEKKVNIITL AETGSLDFRT FCTSLIRKP LRSLHCHVCN CCVARYDQHC LWTGRCIGFG120
NHYYIIFFLF FLSMVCGWII YGSFIYLSH CATTFKEDGL WTYLNQIVAC SPWVLYILML180
ATFHFSWSTF LLLNQLFQIA FLGLTSHERI SLQKQSKHMK QTLSLRKTPY NLGFMQNLA240
FFQCGCFGLV KPCVVDWTSQ YTMVEHPARE KVLRSV                               276

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(2) INFORMATION ON SEQ ID NO. 216:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 49 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 216:

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SPSRSPVVFA GEFLEKHPFV EESLMSFFHP DLHLMNPKAI STQFLYSVF

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49

(2) INFORMATION ON SEQ ID NO. 217:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 37 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- KEINNYIRKE KNFKYLQPST PNHPQDRWVQ KNAPWEY

(2) INFORMATION ON SEQ ID NO. 218:

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 218:

KESSKDDRTS RRRSIIISER KKILSIYNPL LLITPKIGGS RKMHLGFTEE RS

(2) INFORMATION ON SEQ ID NO. 219:

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 219:

```
DKRNGIISKK LSPEKTTLKS ILKRKGTSID SDESDDIEIS SKSRVRKRAS SLRFKRIKET 60
KKELHNSPKT MNKTNQVYAA NEDHNSQFID DYSSSDESLS VSHFSFSKQS HRPRTIRDRT120
SFSSKLP SHN KKNSTFIPRK PMKCSNEESC                                     150
```

(2) INFORMATION ON SEQ ID NO. 220:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 83 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 220:

NKWNKSKLGK EISKATQSLD PAQLADPCHS LAVAASLCSL KGEFGQCFPS PWAWSLHSGK60
 QTS GPFPKSQ ECLAAWVLI AMF 83

(2) INFORMATION ON SEQ ID NO. 221:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 83 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 221:

NSKLVD CRME TWLLRHVVSF SLCVSCWGVV MIVSALTHCT RWQQDTALHK MAAPLQLPPQ60
 PPSLHPH RFG LWFLSSVTYC LRS 83

(2) INFORMATION ON SEQ ID NO. 222:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

"BEE" BEE

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 222:

CLHNREPDIF RILSSSYGI LRPRSYLQTK WPWSLQNIAM STHQAARHSW DLGKGPLVCF60
PLCSDQAQGL GKHWPSPFS EHREAATARE 90

(2) INFORMATION ON SEQ ID NO. 223:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 114 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 223:

QSLRHCWLNI SLQRDGAFKE PGAGPVSSKA LDVFLVRTRR GCQMLKPSG LVWPRAAGQG 60
RAEKWSSSQL ALPSPTQPRP RWSLDSILTS ASPKVQMSKC LVVQSQEMGS YLKS 114

(2) INFORMATION ON SEQ ID NO. 224:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 145 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 224:

GCVGGGAEAE MAEKFDHLEE HLEKFEVENIR QLGIIVSDFQ PSSQAGLNQK LNFIVTGLQD 60
IDKCRQQLHD ITVPLEVFY IDQGRNPOLY TKECLERALA KNEQVKGKID TMKKFKSLI120
QELSKVPED MAKYRSIRGE DHPPS 145

2025 RELEASE UNDER E.O. 14176

(2) INFORMATION ON SEQ ID NO. 225:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 95 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 225:

GQTMRTGLR GVSRAQSHLS RKVASALAVP ASRRIAVPGD LHTGRVSWLR RRVILPPDAS60
ILSHVFRKYF RKFLNQAFK FLHGVDLAFN LLIFS 95

(2) INFORMATION ON SEQ ID NO. 226:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 226:

ALRPPLYALG QQVGAVTGPA DCSATAPLDF WIFWKQSQNS GLLGGWQGRGM VRGPPFISLF60
SIRWQSTGHP WWVSGPRPMP TLPFESR 87

(2) INFORMATION ON SEQ ID NO. 227:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 79 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

2025-11-11 14:55:55

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 227:

APALATQPPL SLPRGTGPAY LNSLTMLQQT WLLDSKLLSS NVLLPHFHFL HICLLLYWFL60
LLNLYFHSWV LCLPPFFSA 79

(2) INFORMATION ON SEQ ID NO. 228:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 87 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 228:

RSMSVEASFV CLGTTGRCCH WSCRLFSNSP FGFLDILETK SEQWPTGGLA EGYGKRTSFH60
LPVQHMAVH RSSLVGVRPK THAHLTL 87

(2) INFORMATION ON SEQ ID NO. 229:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 150 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 229:

ATLSRFFGRI FNLRLTQVFP FLFSSPNDKK SFCSSIEGEWN GVMYAKYATG ENTVFVDTKK 60
LPIIKKKVRK LEDQNEYESR SLWKDVTFNL KIRDIDAATE AKHRLEERQR AEARERKEKE120
IQWETRLFHE DGECWVYDEP LLKRLGAAKH 150

2285555 174954555

(2) INFORMATION ON SEQ ID NO. 233:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 206 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 233:

DSLRRGLGIC LWEFIHLSLL FTSPKPGFPL LKPAVISQLE GGSELGGSSP LAAGTGLQGS 60
 QTDIQTDNDL TKEMYEGKEN VSFELQRDFS QETDFSEASL LEKQQEVHSA GNIKKEKSNT120
 IDGTVKDETS PVEECFFSQS SNSYQCHTIT GEQPSGCTGL GKSISFDTKL VKHEIINSEE180
 RPFKCEELVE PFRCDSQLIQ PSREQH 206

(2) INFORMATION ON SEQ ID NO. 237:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 57 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 237:

RIRRSALIFS KGVQRWRRVF GRRVSPGSGN TESEASDYRK KQGTSKVFGF RVLKKIQ 57

(2) INFORMATION ON SEQ ID NO. 238:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 44 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

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(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 238:

GTLFFTVVTG FALCVPAAGT YPPSENPPPS LYTLGKDQCR TDPD

44

(2) INFORMATION ON SEQ ID NO. 239:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 74 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 239:

NLYPTLEFNP SHEVVELTGF FSTPFFRTPL RYLVFYGSHW LRSLCSRCRD LPAFRKPAAI60
SVHPWKRSVQ NAGS

74

(2) INFORMATION ON SEQ ID NO. 243:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 183 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 243:

AAVAFGAKGT SPAEARSSRG IEEAGPRAHG RAGREPERRR SRQQRGGLO ARRSTLLKTC 60
ARARATAPGA MKMVAPWTRF YNSCCLCCH VRTGTILLGV WYLIINAVVL LILLSALADP120
DQYNFSSSEL GGDFFEMDDA NMCIAIAISL LMILICAMAT YGAYKQRAAG SSHSSVTRSL180
TLP

183

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(2) INFORMATION ON SEQ ID NO. 244:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 157 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 244:

CQHVVHCHCDF SSHDPMCYG YLRVQATRS WIIPFFCYQI FDFALNMLVA ITVLIYPNSI 60
 QEYIRQLPPN FPYRDDVMSV NPTCLVLIIL LFISIILTFK GYLISCVWNC YRYINGRNSS120
 DVLVYVTSND TTVLLPPYDD ATVNGAAKEP PPPYVSA 157

(2) INFORMATION ON SEQ ID NO. 251:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 81 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 251:

ATKTVPRQRW SPPHCPRPNE SLNLLRCGWG NRGKTEAPDA FSLLCSSAID CPDVQRETH60
 RFAHENWGAD GQADRLCLFS E 81

(2) INFORMATION ON SEQ ID NO. 252:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 97 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

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(vi) ORIGIN
(A) ORGANISM: HUMAN

GVDGETEAKL RHLMHSAACCA AVPLTALMFR EKRTQGLPMR IGEQMAKQIG YVCFLSDEVR60
KPCGSGGHLW FILFPYPWLL EMVTFRTVQL HLSEHYC 97

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 114 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(vi) ORIGIN
(A) ORGANISM: HUMAN

```
LEILGIFSRV SKLSSSPTDT HPSSQIGVAI LGGRVVYGTP GCLHISQNYF RTIVPKSRVF 60
TGRQNLFSMP VPQLLSQIFI LGSHQLPIPH QTATVPSLSP YCSFKSCSQE RNCH 114
```

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 53 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(vi) ORIGIN
(A) ORGANISM: HUMAN

IPSPQGPFER SYSDPRKCPF PIVVLCLWGL VYPRGNCGEI IGLRVKRALV LEL 53

(2) INFORMATION ON SEQ ID NO. 255:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 35 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 255:

QVDTLISTRK GLKLQNQCSL DSQTNDFSTV TPGID

35

(2) INFORMATION ON SEQ ID NO. 256:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 41 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 256:

TKPQRHRTTM GKGHFLGSEY DLQNGPCGLG IYPYAVPWSN A

41

(2) INFORMATION ON SEQ ID NO. 260:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 205 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

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(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:

GSVKVPASPR PGGTSLGPGV AAKELSFSPR NGRGQLPRP PGSLTLLFF SSPASRGPAS 60
LSPGGIRLLL PPPPHLLPGQ PACPAVMCD KEFMWALKNG DLDEVKDYVA KGEDVNRTLE120
GGRKPLHYAA DCGQLEILEF LLLKGADINA PDKHHITPLL SAVYEGHVSC VKLLLSKGAD180
KTVKGPDLGT AFEATDNQAI KALLQ 205

(2) INFORMATION ON SEQ ID NO. 264:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 180 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:

RNMSSFSRAP QQWATFARIW YLLDGKMOPP GKLAAMASIR LQGLHKPVYH ALSDCGDHV 60
IMNTRHIAFS GNKWEQKVYS SHTGYPGGFR QVTAAQLHLR DPVAIVKLAI YGMLPKNLHR120
RTMMERLHLF PDEYIPEDIL KNLVEELPQP RKIPKRLDEY TQEEIDAFPR LWTPPEDYRL180

(2) INFORMATION ON SEQ ID NO. 265:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 78 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:

VIGYPSRINS EPSVVIYNRP GNNVKLNCMA MGISKADITW ELTDKSHLKA GVQARLYGNR60
FLQPQGSMTS SACHKEGW 78

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(2) INFORMATION ON SEQ ID NO. 266:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 40 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:

ATPLCGMLNG SLIPGVVEIC FHTDEPEPLP SDATYPLTPT

40

(2) INFORMATION ON SEQ ID NO. 267:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 136 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:

VGIWQEDHLP QSLGFLNKKE IVFLSWLLRL LKLALPLKYD ISFAVLNLKL VASSVAHFQF 60
 LYQASLLSFP LRMGQVCSGG HSVRFSGFG RGFKGKYS GG RMGSGVKVGD KGGRAKGGVE120
 GWGPYLDGRM PGGQ GK 136

(2) INFORMATION ON SEQ ID NO. 268:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 92 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

"RECEIVED" 04/05/93

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:

LVYPKQGTKE PGKRSQGHVQR DTQDTLRDQS GSTPVLLPEC LCVNPCFLQN KRQQRKLLNQ60
NTDPMRNGAC FCDPGELSAR LQELTDGQLL IF 92

(2) INFORMATION ON SEQ ID NO. 269:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 103 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:

NLVYTMWLQI YVNVHFEHIY VLWKEMLVTK IRFTLKEEEF YSKHSNILEK CFKIQSIVFK 60
VAVKASTYVK TQKEGSSDKN TAPLLCCFSC SLYTLKHLL SGA 103

(2) INFORMATION ON SEQ ID NO. 270:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 82 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:

FIYKQSKVRD IFAVTLAILS LQSPTSRVQC TSNNSLKTRH LTISVYLCK VNKKSIIKE60
LCFYQRS LPS EFLHKLMP SL QL 82

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(2) INFORMATION ON SEQ ID NO. 274:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 95 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 274:

QQHHLPQSLG FLNKKEVVFL TWLLRLLKLA LPLKYDISFA VLNLKLVASS VPHFQFLYQA60
 SLLSFPIRMD MCCSACHVCN ASCREFGHSI KEKIQ 95

(2) INFORMATION ON SEQ ID NO. 275:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 56 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 275:

LLHQYHTSSF YTKPVSSVFP LEWTCVQRV MSVMLHAESL VIVLKRKYSE VTMSPE 56

(2) INFORMATION ON SEQ ID NO. 276:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 69 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 276:

HAEQHMSILM GKLRLRLAWYR NWKCGTDEAT NFKERTAKLM SYFKGRANFN NLNNQVKNTT60
SFLLRNPNPND 69

(2) INFORMATION ON SEQ ID NO. 277:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 95 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 277:

YILEISPLKP SLAPTSCGLM PQGFPPHFCN PRYPSLSTPS QTPTPGIARE DEGLANCVGY60
VSVVLIRDVH DCQSAFLTSV TTLRCNSSQ KKTFS 95

(2) INFORMATION ON SEQ ID NO. 278:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 133 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 278:

PTQFARPKSS RAIPGVGVWD GVDNEGYLGL QKWGGNPWGI SPQEVGASDG FRGDISNIYQ 60
PWALSPCCSQ HGPHTSSLRL TWELVRNAGS PRSIELEAVL TRSPVIFMAQ SSFLRDRCRLL120
LSAGMRHPWG RCG 133

276 277 278

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 102 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

LKQHSNQHNN LLGQSLHGQS LGWESGMGWI MKDWTGCRSG VGIPGASVHR RWGPAMASGV 60
 IFPIYISPGH SRPAAHSMVL TPAASALPGS LLEMOLDPLD LS 102

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 86 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

VYSANEGQNF QFIDGYSAAD ESLCVSHFNF CKQRHRPRTV RGRTSFSSKL PRHNKENSTF60
ISRKPMECNSN EEVVOGOSD GSMGKF 86

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 69 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 284:

GAEIVFLQNC LGIIRKIALL FQGNRWNVQM RKLLIKGSRM DQWVNFRWRQ GGAYIHSNPD60
VIWSGQGWK 69

(2) INFORMATION ON SEQ ID NO. 285:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 59 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 285:

LTTSSFEHSI GFLEIKVLFS LLCLGNFEEK LVLPLTVLGL CLCLQKLKWL THKLSSAAE 59

(2) INFORMATION ON SEQ ID NO. 286:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 65 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 286:

GKEPQPESNS IMVKFPTSS CEWVIRKNEK PKDKNQRQMG SVTGSLSSIL NPIEYCGLTK60
CQGGD 65

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(2) INFORMATION ON SEQ ID NO. 287:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 48 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287:

FLSFGSSFFL ITHSQDDSVG NLTMIELLSG WGSFPHRKDI LKTKKYLN

48

(2) INFORMATION ON SEQ ID NO. 288:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 32 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288:

ARNIQSDLEW MIKIQSQTPS VFDFCLLDPH FS

32

(2) INFORMATION ON SEQ ID NO. 292:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 76 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

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CAKLETGDFD LSYLFAFCAS PSNLVHLSSH SCYFQVKQDI LGVKSLWVFC FYVYKNGFCV60
PEPCYOLIW KLTIIM 76

(2) INFORMATION ON SEQ ID NO. 293:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 63 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 293:

VELSLLFPQL SQLLVNFKEA GHDDSHLLSQ NFGRRRWADS LSPGVQDEPG QYGPTSSLTK60
HPH 63

(2) INFORMATION ON SEQ ID NO. 294:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 73 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 294:

```
PPKCLVSLNN NMNETKDEPD YLVTHRRRTS SSGNQILFQA WHIKGKKGSE RRVRYHLKP60
OKIWQKTASK SIR 73
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PLGPASSAFG  PSGSKSRSEE  GRDGTASPGT  FKYHPWSPLS  SLREWTSQST  SSGLSDLLLC  60
LYQPWQGSRI  HLVGSGPSQY  HWGSNKFLEP  QSLGPGSQLI  GDGVFPQARA  EFGTSGHELE 120
GNSVSYELGP  WP                                     132
```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 299:

ESRRGALAGP LSKAGEGRPG WYLNVPGMLS HPFLPHSYSL TLMAKARDAG PKGKNVLSVF60
SGFYSLVSLH 70

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 300:

GVKAREYRED VFTFRACVSG FGHQQRVGV RKEGMGQHPW DVQVPSWSPF SSLREWTSQS 60
TSSGLSDLLL CLYQPWQGSR IHLVGSGPSQ YHWGSNKFLE PQSLGPGSQL IADGVPFKLV120
PARAEFGTSL KGNSVTYELG PWP 143

(2) INFORMATION ON SEQ ID NO. 304:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 408 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:

FANWEFMGTE QLQPQLPSPK VWSCRGCRQG PTKFNQVSRM QTPAPVSRV GLAVSLTPPP 60
SGQSGPSVMG KAAACPATPA SAPSQGLSFG GPVSCWPGSP LLHLIGGRQL LDLCPGCGRS120
LPFSSSSSSS VSND SAPDGP RGLGCFGGV LGGRGFKYLL YFLEVAATQQ ILLGRASAF180
LKRDVGDPLV VAPAFFAVAG HLHQAVALPG VRVRVRDQET MQVSGLGAL GLGRLSQELR240
QALHARHPHD VDVVVTAEGL DEREVDLQGD VILLLLVNGQ EAEDHAVVWH IHQLGRLVHP300
HCEAILALSG HQKLLHRGGH RLHLLRRVVA RHELFQRHVA IIIHSGCGST AVPREKLQNP360
SQRAQNLPTL LERSKTFGK QRNPSRKGGK IYCKVLGEDN PGSCGNQR 408

(2) INFORMATION ON SEQ ID NO. 305:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 169 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:

GWGVWQAGLD PVLGPPSSAV PSLLLGVVSM VWPHLQLCLS AVPLASSSLN SAAWSPVSSR 60
ARQGWGGWCW QQLLSWCDLS GLHLRGRNGP GYRQIHPGW SPRPPGLGAA GGRWLLVGRW120
PSCLACLPLCL SSSPNALSVS AFLAPGLSTP SAYKAVSPPQ TTVWLQPIR 169

(2) INFORMATION ON SEQ ID NO. 306:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 120 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:

ILQLGHQFPL VPARAGAVGV GSSFSLGATF PASTSEVGMG QAIEVRFIQA GVLVLRWGL 60
LGGAGCWEG GHRAWLVFPA SLLLLTLCLS LLSWPRASPL PQLIRLCLLL RPQSGSSPSG120

(2) INFORMATION ON SEQ ID NO. 307:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 472 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

305 306 307

ESLSLTHPGEE	PGGPPPGGAP	TMATPLVAGP	AALRFAAAAS	WQVVRGRCVE	HFPRVLEFLR	60
FLRAVAPGLV	RYRHHRLCM	GLKAKVVVEL	ILQGRPWAQV	LKALNHHFPE	SGPIVRDPKA	120
PKQDLRKILE	AQETFYQQVK	QLSEAPVDLA	SKLQELEQEY	GEPFLAAMEK	LLFEYLCQLE	180
ALPTPQAQQ	LQDVLSSMQP	GVSITSSLAW	RQYGVDMGWL	LPECSVTDSV	NLAEPMEQNP	240
QQQRLALHN	PLPKAKPGTH	LPQGSSRTH	PEPLAGRHFH	LAPLGRRRVQ	SQWASTRGGH	300
TERPTVMLEF	FRNLGSPTQV	ISKPSKEEH	AIYTAADLAF	TRAASTGKSK	SPCQTLGGRA	360
LKENPVDLPA	TEQENCLDVC	YMDPLRLSL	PPRARKPVCP	PSLCSVVITI	GLDLVDSDEE	420
NGOGEGEKES	LENYOKTKFD	TLIPTLCEYL	PPSGHGAIPV	SSCDCRDSSR	PL	472

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 138 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 308:

PGFALRGAIG PREGRGGGRG YRRSSGRQPL VSWQRQARCG SGGAMSFCSF FGGEVFQNHF 60
EPGVYVCAKC GYELFSSRSK YAHSSPWPAP TETIHADSVK KRPEHNRSEA LKVSCGKCGN120
GLGHEFLNDG PKPGOSRF 138

(2) INFORMATION ON SEQ ID NO. 309:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 121 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 309:

SYGATAAFLS RSEASYFRTD CETGFRFLPS WTRGQGCAPS ACLPSRSQTI PTLAGLEGFD 60
QSGSCSDQGQ GGWQGRPPFP FCLLSSLGVD GLSFGEDSL SWNWASQGRV QRQGQEKKVR120
V 121

(2) INFORMATION ON SEQ ID NO. 310:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 249 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 310:

SEQGAKSADS VAAQPRPVPA EGMNHQQMSL FSKKRKGLVQ SRGLGSVLMF QPLRPAFLSR 60
 RPKGQLQGGM ANVWPQCGGR LGVWVAARLV TLGGRSFFAF RDKLQRAAEY SESGLPRLGA120
 VVQELVAQPI ATLATGHLQG FRSIVLRTLQ HAVGVNGLGE RRPWRRVCIL RAAGEQLIAT180
 LGTHVNARFK VILENLAPPEE AAERHGATGT AARLPLPTDQ RLPTRRPPVP ASTSPPLERT240
 NRSPEGESR 249

(2) INFORMATION ON SEQ ID NO. 311:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 204 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 311:

LGSSWIFVNL TVRFCILGKE SFYDTFHTVA DMMYFCQMLA VVETINAAIG VTTSPVLPSL 60
 IQLLGRNFIL FIIFGTMEEM QNKAVVFFVF YLWSAIEIFR YSFYMLTCID MDWKVLTWLR120
 YTLWIPLYPL GCLAEAVSVI QSIPIFNETG RFSFTLPYPV KIKVRFSFFL QIYLIMIFLG180
 LYINFRHLYK QRRRRYGQKK KKIH 204

(2) INFORMATION ON SEQ ID NO. 312:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 155 amino acids
 (B) TYPE: Protein

(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 312:

RISGCSPRSS CCFQCPTADR FKKPTEQQQN EVFLRSIQKC TVPPLTRTST QVNGLSQCRR 60
WKAAIFYVCA QPYSLEVCLA YSNISSLSKA VHCYCQFDLH TVFPLDPCYH LDLVCVCVYV120
CLCVCGLVWF ETGSCTVTPG CSAVAQSRLT AALTS 155

(2) INFORMATION ON SEQ ID NO. 313:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 70 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 313:

AVMDQVMQFV EPSRQFVKDS IRLVKRCTKP DRKEFQKIAM ATAIGFAIMG FIGFEVKLIH60
IPINNIIVGG 70

(2) INFORMATION ON SEQ ID NO. 314:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 112 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

313-314-315

FRNRKHLERK KKNPQNIQAN LYSVSFSPHP TCSPISKMKMKN SLPKCIQPPT MMLLIGIWIN 60
ETKKPMNPPII ANPIAVAMAI FWNSFLSGLV HLLTSRMESF TNCRLGSTNC IT 112

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 110 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 315:

DEKLSSKMY S ATNNDVINRN MDQFHKEANE SHYSKSYCCC HGNLLEFFSI RFSASFNQPN 60
GVLYKLPTWL NKLHYLIHDC LPNRHLKCQG HVALELADGG PPEPESGFLP 110

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 113 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 316:

GSSEGSYSSQ TETCPLTPSL VTGSMFAQNF LRGLSLQKSN LLPECCCLASE NLTLSFSPVN 60
GHRCAVQGE TSESRAQWHG VALVVRKVIG QLYCKRNKYV VQFCKCQVCS VVL 113

(2) INFORMATION ON SEQ ID NO. 317:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 100 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 317:

GKRGQLWSLN LLAPCAGYKT RSWSKIALTP NPNAVQDLGA TQPVVIWCWF PFFVCLLVSK 60
 IALLGTAWKV QAFLLARSL ASSPCLHSPV KEDFCSTLWS 100

(2) INFORMATION ON SEQ ID NO. 318:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 101 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 318:

SQIISNLVDN YSIQELMFSE TVINRIFTSG LAGRLGGRKG RVEGWVAHQN GDEPGKTTML 60
LFLYPLKPIS RVLNDAFFVC FLIGSQISFS IKNWGYKPKE T 101

(2) INFORMATION ON SEQ ID NO. 319:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 368 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 319:

368

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 121 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 320:

121

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 114 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 321:

FFFFFFFF HSNVYFFFF FFFFGKNVI YLHCFHSSTV VLGLNISITL LFPIYILLEY 60
YYKYNIQFKK TYGETQLMFF SPLYRLSII RLQWKFIWTF SVHILKGRDY TDKA 114

(2) INFORMATION ON SEQ ID NO. 322:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 597 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 322:

EKCGQYIQKG YSKLKIYNCE LENVAEFEGL TDFSDFKLY RGKSDENEDP SVVGEFKGSF 60
RIYPLPDDPS VPAPPRQFRE LPDSVPQECT VRIYIVRGLE LQPQDNNGLC DPYIKITLGK120
KVIEDRDHYI PNTLNPVEGR MYELSCYLPQ EKDLKISVYD YDTFTRDEKV GETIIDLENR180
FLSRFGSHCG IPEEYCVSGV NTRDQLRPT QLLQNVAREK GFPQPILSED GSRIYGGRD240
YSLDEFEANK ILHQHLGAPE ERLALHILRT QGLVPEHVET RTLHSTFQPN ISQGKLQMWV300
DVFPKSLGPP GPPFNITPRK AKKYLRVII WNTKDVILDE KSITGEEMSD IYVKGWIPGN360
EENKQKTDVH YRSLDGEGNF NWRVFPPFDY LPAEQLCIVA KKEHFWSIDQ TEFRIPPRLI420
IQIWDNDKFS LDDYLGFELE DLRHTIIPAK SPEKCRLOMI PDLKAMNPLK AKTASLFEQK480
SMKGWWP CYA EKDGARVMAG KVENTLEILN EKEADERPAG KGRDEPNMNP KLDLPNRPET540
SFLWFTNPCK TMKFIVWRRF KWVIIGLLFL LILLFVAVL LYSLPNYLSM KIVKPNV 597

(2) INFORMATION ON SEQ ID NO. 323:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 76 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

"00000" 04927950

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 323:

IRRDKAYLTF KWRDDENPLI QSFRTKRQSS DKSMTWMKCP TGALDIFNFC DYVKEVDFTD60

NGAEANISKR NPNFFP

76

(2) INFORMATION ON SEQ ID NO. 324:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 90 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 324:

FFLYSFSSDN HDFSSEKTIY LAFVSGGELA ISILKPAIIV NLRTGLSWGS EGKELFEQMC60
VGGTGFFHPTA KLVLEISFY NTKISLCQRF 90

(2) INFORMATION ON SEQ ID NO. 325:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 60 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 325:

TRSLLYFHMV LILWEEVGIP FTNVGFCSSII CKVHLFHIIA EIKDVQGPCR AFHPCHTLIR60

(2) INFORMATION ON SEQ ID NO. 326:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 42 amino acids

RECEIVED 1997-07-23

(B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 326:

IRNEKKGCVL SVGEMELVLV VLEQDRHLVL MLWSFVIVEH RG

42

(2) INFORMATION ON SEQ ID NO. 327:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 50 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 327:

ATCSDNRSKI FQLENLECYV LLEPAICMYR INNFYSFGQV ILRQSQWIK

50

(2) INFORMATION ON SEQ ID NO. 328:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 48 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

"04022550"

(2) INFORMATION ON SEQ ID NO. 331:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 124 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 331:

ENWASRYFQS SFTEQKVWVG HWLEGDSPTL TVTIWAATGG IVQLASRCIP HLKVCWIKAI 60
 YTLAKSKAKE IALDPESQQD HLIFPNQHLG QQLPSTFLFH SWFFFFFFLQ DLAVTQDGVQ120
 WHDH 124

(2) INFORMATION ON SEQ ID NO. 332:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 82 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 332:

LNVDLLITRR LCEKIYVYIY MICRSHEFYQ ALFSLQSHSL TVCNSWFMLM IDKYPVFVTF60
 SNYHCNDNLS HUYTCNFLAS FP 82

(2) INFORMATION ON SEQ ID NO. 333:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 82 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

"04954955"

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 333:

RLVKYKNSLN REKASQVFPL KVKYGTFFHN KVNDKFLTF FRRKKKTSYE PSLVNHLVYK60
IFPLFKKCFC KILRSHEIMP WS 82

(2) INFORMATION ON SEQ ID NO. 334:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 75 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 334:

KLEYIMSTAN CSFCLILTDY AFPQRSSRSH IYRHIYGSL KEKTLSSIM IYHCAINQKN60
QVRNTIKTTL KGKNF 75

(2) INFORMATION ON SEQ ID NO. 335:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 72 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 335:

NEYCSWSTCI KQKTCQLLGA NTQNLVPVEF FELTTIVYTF LKIKFVTKSP MSFTCIYDHQ60
MVIRATYVNA CL 72

"BIBLIS" 1994

(2) INFORMATION ON SEQ ID NO. 336:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 93 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 336:

THNTSTITAY RKLQSTLQAS KVHSAQSPW RGRDLKVLMS SYFTCFLLST QCKMNFLHSL60
YFRLKIDSFL VLTLTLEGT VPGKRSRFTV PNH 93

(2) INFORMATION ON SEQ ID NO. 337:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 99 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 337:

LGPRGEIEVY LAKSLAEKLY LCQYPVRPAS MTYDDIPHLS AKIKPKQQKV ELEMAIDTLN60
PNYCRSKGEQ IALNVDGACA DETSTYSSKL MDKQTFCSS 99

(2) INFORMATION ON SEQ ID NO. 338:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 56 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

135573447959

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 338:

GKSRRSACPS ASRNTCWSRR RRPFRPSAQS APLCCGNSWG SGCWPSQAL PSAAWA 56

(2) INFORMATION ON SEQ ID NO. 339:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 59 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339:

GRAEGLLVHQ LRGIAGLVG AGPVHVQRNL LPFAAAIVGV QGVDGHLKLY LLLLGLDLG 59

(2) INFORMATION ON SEQ ID NO. 340:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 157 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 340:

QPSSLLHHCP YPYPPRHLLA TPLLKPQLLA GSPAASLIS FLASPQRASR QHGGPSQRAG 60
TLSCPLVELG GSSGGRGLCH GSADPTNRAA EPQERGEPA GDRRPLPEWG RVSLAESPGA120
EFRCPGSLGE WGEIPEKESS AHPKTEEAAL CPAPGSH 157

11/11/11 11:11:11

(2) INFORMATION ON SEQ ID NO. 341:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 260 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341:

NHSCWQGPQL MPASSPFLLA PKGPPGNMGG PVREPALSA LWLSWGAALG AVACAMALLT 60
 QQTELQSLRR EVSRLQGTGG PSQNGEGYPW QSLPEQSSDA LEAWESGERS RKRRAVLTQK120
 QKKQHSVLHL VPINATSKDD SDVTEVMWQP ALRRGRGLQA QGYGVRIQDA GVYLLYSQVL180
 FQDVTFTMGQ VVSREGQGRQ ETLFRCIRSM PSHPDRAVNS CYSAGVEHLH QGDILSVIIP240
 RARAKLNLSP HGTFLGFVKL 260

(2) INFORMATION ON SEQ ID NO. 342:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 201 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 342:

TPASWIRTPY PWACRPLPRL RAGCHITSVT SESSLEVALM GTRCRTECCF FCFWVSTALL 60
 FRDLSPLSQA SRASELCSGR LCQGYPSPFW EGPPVPCSLR TSLRLCSSLV CWVSRAMAQA120
 TAPRAAPQLN QRATESAGSL TGPPMLPGGP LGASKKGDEA GMSWGPCQQL WFQEWGSKEV180
 AGRVRVRAVV QKGRLLRKE K 201

(2) INFORMATION ON SEQ ID NO. 343:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 165 amino acids
 (B) TYPE: Protein

(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 343:

GRRSRMEIPV PVQPSWLRRA SAPLPGLSAP GRLFDQRFGE GLLEAELAAL CPTTLAPYYL 60
RAPSVALPVA QVPTDPGHFS VLLDVKHFSF EEIAVKVVG E HVEVHARHEE RPDEHGFVAR120
EFHRRYRLPP GVDPAAVTSA LSPEGVLSIQ AAPASQAAPP PAAAK 165

(2) INFORMATION ON SEQ ID NO. 344:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 116 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 344:

TALAPQASQ AQSPHPPNVL DCTDLPLQTI QAWFPRPDS PATRQSTTAP SSPFSVAVKPQ 60
PATPDSTLFL RLPQLLDTRP TRTPNTKLYR LSHPNLPRLC TDVLGPLPNS NQTPSP 116

(2) INFORMATION ON SEQ ID NO. 345:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 111 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

343 344 345

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 345:

DIRAESGEVG VGESVQFGVG CSSWPGVQEL GQSKKGSRVW CGWLGFGHGRK WAGGGSCRLS 60
 GCRGRIGSWE PGLDGLEWEV CAVQDVWVG GLCLTGLGLG QGCLHNLVS K 111

(2) INFORMATION ON SEQ ID NO. 346:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 53 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 346:

RTEEEKKKKE KNQQPQLPTP KCWSFYVKGR IPGYGHGVYK YVGRFSANSF PTV 53

(2) INFORMATION ON SEQ ID NO. 347:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 51 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 347:

NELKWTNRAE LSVGWQSWKP AFPASHQLNE VSMSIQLRLF FKNNHAFLNP N 51

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(2) INFORMATION ON SEQ ID NO. 348:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 150 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 348:

RHAGGGALGN LPPQPPGSGV MHPETCPSTF LASPLPHSIA PGLFLLDFVL VLALFLIFFY 60
 YESPGRRGDS GSWPGPGRQV ALEMKGKLCR GAELSLCFSE FPLLLPLHTP VAGRNLGFP 120
 SLGVPPFLPH PGGTPRAPGL FLLLSFWAV 150

(2) INFORMATION ON SEQ ID NO. 349:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 131 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 349:

RSFLTRSVIK LPKRKTRGET SPGPWAFPLG GVRVGPSPF QGSRGSFQPR GCEGEGVEEK 60
 RRNRERAQRL DTDTFPSPGP PAVLAQASSH CHLCVQEIHN KKKSSTKPKP KQNPKGKDLG 120
 QWNEEEGRRG R 131

(2) INFORMATION ON SEQ ID NO. 350:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 151 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:

RKKGETEREL SASTQTLSHL QGHLPWPRP APTVTSASRR FIIKKNQKQS QNQNKIQKEK 60
TWGNGMRKRG GEEGRAGLW MHNSRARGLG RKIPQRPAC VALARHVVFG GRLPIHPVEI120
LVAGLLGGVK PVSDRQAGKG LGDGGCGRER V 151

(2) INFORMATION ON SEQ ID NO. 351:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 108 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 351:

TLTAHEGRGG KCTEEDASQ QEGCTLGSDP ICLSESQVSE EQEEMGGQSS AAQATASVNA 60
EEIKVARIHE CQWVVEDAPN PDVLLSHKDD VKEGEGGQES FPPLPSEE 108

(2) INFORMATION ON SEQ ID NO. 352:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 77 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 352:

KFFGNSLHAT PKCTPITLWL FSEKDFSQIV PFTPLRAALG NSPDHLLPPS RHLCVTAGHP60
GLEHPPPTD THEYGLP 77

350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000

(2) INFORMATION ON SEQ ID NO. 353:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 122 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 353:

TYSIHLHSQT KLKSLKVHKK IAQLKSAEYT QNCHPTVFSV FPAILEPFPQT SSAPSHPKYA 60
 IVFVILIKIL KQKFIVEQFM STKVCLSCSC PVCISSGFII QIKKILKNFL VTACMQPLSV120
 PL 122

(2) INFORMATION ON SEQ ID NO. 354:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 457 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 354:

PVCEPLSCGS PPSVANAVAT GEAHTYESEV KLRCLEGYTM DTDTDFTFCQ KDGRWFPERI 60
 SCSPKKCPLP ENITHILVHG DDFSVMNRQVS VSCAEGYTFF GVNISVCQLD GTWEPPFSDE120
 SCSPVSCGKP ESPEHGFVVG SKYTFESTII YQCEPGYELE GNRERVCQEN RQWSGGVAIC180
 KETRCETPLE FLNGKADIEN RTTGPNVVYS CNRGYSLEGP SEAHCTENGT WSHPVPLCKP240
 NPCPVPFVIP ENALLSEKEF YVDQNVSIKC REGFLLQGHG IITCNPDETW TQTSACEKI300
 SCGPPAHVEN AIARGVHYQY GDMITYSCYS GYMLEGFLRS VCLENGTWTS PPICRAVCRF360
 PCQNGGICQR PNACSCPEGW MGRLCCEPIC ILPCLNGGRC VAPYQCDCPP GWTGSRCHTA420
 VCQSPCLNGG KCVRPNRCHC LSSWTGHNCS RKRRTGF 457

(2) INFORMATION ON SEQ ID NO. 355:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 210 amino acids
 (B) TYPE: Protein

(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355:

GVRAASKEIE ELRRAHREGT SRAVTGEGPA AGRMTVPKQT QTPDLLPEAL EAQVLPREFQ 60
RVLQVQAQVQ SQTQPRIPST DTQVQPKLQK QAQTQTSPEH LVLQKQVQF QLQQAEPQK120
QVQPVQVQQA HSQGPQVQL QQEAEPLKQV QPVQVQAHF TAPRAGAAAA EEAGPDTDFS180
TGAHTGHSQA SRHRELLPGA VFSFRPPGAG 210

(2) INFORMATION ON SEQ ID NO. 356:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 292 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356:

GRAGRRATMF SQQQQQQQLQQ QQQQLQQQLQQ QQLQQQQQLQQ QQLLQLQQLL QQSPPQARCH 60
GVSGGPPQQP QQPLLNQGT NSASLLNGSM RQRALLLQQL QGLDQFAMPP ATYDTAGLTM120
PTATLGNLRG YGMASPGLA PSLTFFQLAT PNLQQFFPQA TRQSLLGPPP VGVPMNPSQF180
NLSGRNPQKQ ARTSSSTPN RKDSSSQTMP VEDKSDPEEG SEEAAEPRMD TPEDQDLPPC240
PEDIAKEKRT PAPEPEPCEA SELPAKRLRS SEEPTEKEPP GQLQVKAQPQ AG 292

(2) INFORMATION ON SEQ ID NO. 357:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 169 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

35573644-3557

(vi) ORIGIN
(A) ORGANISM: HUMAN

PRRLPSVAVG MVRPAVSYYA GGIANWSSPC NCKSKALCR MEPLRREAEL VPWFRFRSGCC 60
 GCCGGPPLTP WQRACGDCW SSCWSCSNCC CCNCCCWSCC CCNCWSCCCC CWSCCCCCWL120
 NMVARLPARP QRSSRPHGWA GPAAPTPRPG GSGPRAPGLP AATPGPVGS 169

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 158 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

ISKTKKYCGS PSSRIRLEGG HLEMRKARGG DHVPVSHEQP RGGEDAAAE PRQRPEPELG 60
LKRAVPGGQR PDNAKPNRDL KLQAGSDLRR RRRDLGPHAE GQLAPRDGVI IGLNPLPDVQ120
VNDLRGALDA QLRQAAGGAL QVVHSRQLRQ AFGPPEES 158

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 119 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

QSLRTLNLKN KKVWLWISLEP NSARGRSPGD EKGPRGGPCA CVPRAAERRG GRCCPGAQAE 60
ARARAGAOTS CPGGPEAGQC QAQPGPETAG WLRPPEATAG PWPSCRGSAG PEGWGHHPW 119*

(2) INFORMATION ON SEQ ID NO. 360:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 187 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360:

PPEFGWDAAE TDLLLAEEGS GWRGPHGQQV LGLLWRPRRL SKLPAVDHLQ SSPRSLAELG 60
 IQGATEVVHL DIRQGVKAND DPIPRGQLTL CMRAKVPPSP PEVGASLQFQ VPVGLGIVRP120
 LAPRDSSFEP QLWLWPLPGL LGSSVLPASR LLVGHHRMVP EAGLSHLQVT ALEPNSARGR180
 STVLECF 187

(2) INFORMATION ON SEQ ID NO. 361:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 86 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

STIILGKSRI EFFSRCPTRV GQGPQSRLIN SHRIQTPGKI ALRSQLLSSL YGSRKNSTKM60
 TGHPMVMMPM KPHLLEKPLN QNYLFS 86

(2) INFORMATION ON SEQ ID NO. 362:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 83 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362:

ITKAIVFSFV FSSGYTVEVR ESLILLFGAI IKAMQQPKIK HFGSSQDDMS GDRSCGSHSN60
NLMGPPEKGTG VNVLSFYMQ ELC 83

(2) INFORMATION ON SEQ ID NO. 363:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 117 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363:

YKNDRSSYER HANETPSSGE ALESELSFFL MSSDAASFLI FLKTVCF CGM YICTPNYLAL 60
GNHSTTQRQL NKEKFNFKYQ VLSNISQTS DFIKGLPANKV HPKYTG EKAR LLQGPRV 117

(2) INFORMATION ON SEQ ID NO. 364:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 83 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364:

SCRCFYCMPD MPLTRFWRTF NSPRMTRRHS HVICIFSYQL QIVALLRLPP VQQEMERKHF60
SFLHTTPLDN WKYFWVITIL GYF 83

36373844 530550

(2) INFORMATION ON SEQ ID NO. 365:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 144 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

QYGPSRVEVE MSYRIANTLG SFLPRLAQSR QQQQNVEDAM KEMQKPLARY IDDEDLORML 60
 REQEREGDPM ANFIKKNKAK ENKNKKVRPR YSGPAPPPNR FNIWPGYRWD GVDRSNGFEQ120
 KR FARLASKK AVEELAYKWS VEDM 144

(2) INFORMATION ON SEQ ID NO. 366:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 116 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

KPTKHRCCQH PKKYRYLNPN IRSRIFFCGQ NWHSTSCWSV WAPIISTDNC YHWISRCLCP 60
 LPQPSHPHSL RKVTPQHSL CRQVPPLPSC WQAWQSASVQ IHWICPLRPS DIQARY 116

(2) INFORMATION ON SEQ ID NO. 367:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 160 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

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(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

SSENPPNTAA VNTPRSTGTS IQTSGLEYSS VVKTGIIQOVA GLCGLQLLAQ TTVTTGYLAA 60
YAHYHSPATP TASGKLHILN TPFVGKFLHC LLAGKPGKAL LFKSIGSVHS VPAISRDPDIK120
SVGRRCWTTV ARSHFFILVL LGLILLDEVG HRVPLSFLFS 160

(2) INFORMATION ON SEQ ID NO. 368:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 227 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

WESMNRWYVK PLETSSSKVK AKTIVMIPDS QKLLRCELES LKSQLOAQT AFEFLNHSVT 60
MLEKESCLQQ IKIQQLLEVL SPTGRQGEKE EHKWGMEQGR QELYGALTQG LQGLEKTLRD120
SEEMQRARTT RCLQLLAQEI RDSKKFLWEE LELVREEVTF IYQKLQAGED EISENLVNIQ180
KMOKTQVKCR KILTKMKQQG HETAACPETE EIPQEPVAAG RMTSRRN 227

(2) INFORMATION ON SEQ ID NO. 369:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 155 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

00573544 030604

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

FIFSLEGSSG RAVPAAQAGG KGGALLLKGG WERSWSESES ESQEGSGGLR HWCPLWPLRL 60
 EALGQAPEHK VRLSMEFCST CTADHISLSS FWRSSFQQPL APAVSLQSPD RRLSHDPAAS120
 SWSGFCGISP AFSAFSECSP SSLRSHPPAL GASDR 155

(2) INFORMATION ON SEQ ID NO. 370:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 114 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

DLILLRLELL IDEGHLLPHQ FQLLPQELLA VPDLLGQQLQ AASGAGPLHL LTVTQGLLQP 60
 LKALGQGPIQ LLPALLHAPL VLLLLSLAAC GAQHLEKLLN LDLLQAALLL QHGH 114

(2) INFORMATION ON SEQ ID NO. 371:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 201 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

TASTLRAVFP RPASESPPLR ARSDAEDLTA AMSSNECFKC GRSGHWAREC PTGGGRGRGM 60
 RSRGRGFQFV SSSLPDICYR CGESGHLAKD CDLQEDACYN CGRGGHIAD CKEPKREREQ120
 CCYNCGKPGH LARDCDHADE QKCYSCGEFG HIQKDCTKVK CYRCGETGHV AINCSKTSEV180
 NCYRCGESGH LARECTIEAT A 201

369 370 371

(2) INFORMATION ON SEQ ID NO. 372:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 189 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

LATAVTVDFET CLAAVDGYMT SFTTPIALHF GAVFLNVSEF STRIAFLLIC MVAVTSQMAW 60
FATVVAALLS LSLGLLAVLG NVATSTAVIA GILLKITILG KMTRLTTAIT NIWKRRGNKL120
ETSATASHST TTASTSRTEP GPVARSSLE ALIAAHGCSQ IFRVGAGPQR RRLGRRPGED180
GSQGRGCLF 189

(2) INFORMATION ON SEQ ID NO. 373:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 316 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

GGDPVVSSSY	RSVGCSEQQK	PASSDVVLP	TMSYTGfVQg	SETTLQSTYS	DTSAQPTCDY	60
GYGTWNSGTN	RGYEGYGYGY	GYGQDNTTNY	GYGMATSHSW	EMPSSDTNAN	TSASGSASAD	120
SVLSRINQRL	DMVPHLETDM	MQGGVYGSgG	ERYDSYESCD	SRAVLSErDL	YRSgYDYSEL	180
DPEMEMAYEG	QYDAYRDQFR	MrgNDTFgPR	AQGWARDARS	GRpMAAGYGR	MWEDpMGARG	240
QCMSGASRLA	LPLLPEHhPR	VRHVPGACEV	GAPSRASrF	GFRVWQWHEA	DEgGLGRrGP	300
OPICEPRRRR	ESRAAF					316

(2) INFORMATION ON SEQ ID NO. 374:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 200 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

IPAALLTGS I RMPPCFLFFF LVRKSAVVPV FPVRPHLLHA IAKPENQNGK PPGKAPQPRM 60
 PLEHAVLGDD VLGEEGGQAE RHQTCTGPGP PWGLPTCAHS LRPLAGRS GH PGPSFPVPWDR120
 RCRCHACGTG RGRHRIGPHR PFPSQGQARC SHSLTGTGRA HSGRPSSRRT HKSHTFLHLS180
 RTRLLASCLS PNAAPYLSAG 200

(2) INFORMATION ON SEQ ID NO. 375:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 218 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

STSHDCVPQA DAAAYSRTAD GETEARGGRG GADLPASPSP RPRLAPPWPV RSTRGARRRR 60
 TARGQAGSSS AMAAQRLGKR VLSKLQSPSR ARGPGGSPGG LQKRHARVTV KYDRRELQRR120
 LDVEKWIDGR LEELYRGMEA DMPDEINIDE LLELESEEER SRKIQGLLKS CGKPFVEDFIQ180
 ELLAKLQGLH RQPGLRQPSP SHDGSLSP LQ DRARTAHF 218

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 112 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

NQLKLKQQAG SFSQEGCKGE NILSFLQGN HCPGVPASGR HNLSKVQGML ARKGGILDCC 60
LLSEPSPTPQ PASWCLFSSK LSLPNLSSSE GKRESVPGFS RVGERTGKGT DI 112

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 96 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

VRPEHSLMVL SLDTPTSYLQ FSRRRASGTL GCKPNLGSMF ALNPNSQRRS ECIFHHAAAG60
CWPRFCVFSQ PSEITSFLVA VTNSSWTTMK LIYEPI 96

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 145 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

145

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 429 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:

429

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 169 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

(2) INFORMATION ON SEQ ID NO. 381:

(A) LENGTH: 234 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

```

GIPSEWLGA FITLVYCDFA ATMQSCFQGT LFLDLVRS GP SDLLRVGLGF ASVPQVDEGL 60
VDVKHHHGSS GPQAATVTGH FQQIPFHGHL STHAVQPPLT LHIFFFLFPP PRVHHHPPLE120
TLQETGGLLS LENLDLGPPF LVQLHRHQRR RALLTHGGVP ALPEEVDALL FAGCPHRVLS180
LLATSHCRAH HELPLDHIGI PLMELPDALF GEPAIVEFOD VPDHGNAGD LKLP 234

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(2) INFORMATION ON SEQ ID NO. 382:

(A) LENGTH: 81 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

RLFAPLRTSW AVVIPGARVA LCFYKIMTYV TCLHVCLLVE FLNSQLTNHR KYFFLSYGFW60
FTGLRGFSEY LWPOQHTQFP S 81

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 61 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

IVNRTTACTL FEVNLEWKAR DYTLEFKIDIC GAHTIYEIVP SKKEKKKIRR SNLEQHCLIK60
A 61

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 56 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

PPDFFFLFER GYYFIYCVSP TENVYFKKSIV PGLPFQIHLK ESTCSSPVYN LIEMRK 56

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 139 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

(2) INFORMATION ON SEQ ID NO. 386:

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

(2) INFORMATION ON SEQ ID NO. 387:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 96 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

FCIHFECLHV KTQLIYYFNI KPISFEAKLI LLFYKSNGDS FFRMLKAQCL RFMLAALLAL60
LLPLNQVGLS SLRRHTLHYF LWLQRRHHSP RDTGFH 96

(2) INFORMATION ON SEQ ID NO. 388:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 221 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

FIMLNIILIK FSSFSIRCAI LSSVCLNEAI TFAFLQVFL WNMDKYTMIR KLEGHHHDVV 60
 ACDSPDGLAL LATASYDTRV YIWDPHNGDI LMEFGHLEPP PTPIFAGGAN DRWVRSVSFS120
 HDGLHVASLA DDKMVRFWRI DEDYPVQVAP LSNGLCCAFA TDGSVLAAGT HDGSVYFWAT180
 PRQVPSLQHL CRMSIRRVMP TQEVQELPIP SKLLEFLSYR I 221

(2) INFORMATION ON SEQ ID NO. 389:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 118 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

KGGATCPESP QDRKRRGNLD MEKLYSENEG MASNQGMEN EEQPQDERKP EVTCTLEDKK 60
 LENEGKTENK GKTGDEEMLK DKGKPESEGE AKEGKSEREG ESEMEEVERE GTRGRGSG 118

(2) INFORMATION ON SEQ ID NO. 390:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 138 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

RFPYLGFEPLS RPPPSLTLP SLTFLLLP HSLAFLYPLT FPHLLFCPCF LSFPRFLTSC 60
LPEYKLLAF SRLVAVLHFP SFLGLKPFH FHC RVFPCRD FPSFSCPAGI LDRLLLLFSF120
AERWEQQTRR PGRSWTKN 138

(2) INFORMATION ON SEQ ID NO. 391:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 3218 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

390391 390391 390391

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

GCGACCACGA GCTGGTGCAT CCATCAGTAC CCTTGCCGGA CTTTCCCTTA AAGAAGGAGA 60
 GGATCAGAAA GAGATAAAGA TTGAGCCAGC TCAGGCTGTG GATGAAGTGG AACCTCTACC 120
 TGAAGACTAT TATACAAGAC CAGTAAATTT AACAGAGGTA ACAACCCCTT AGCAGCGTCT 180
 GTTACAGCCT GACTTCCAGC CAGTCTGTGC TTCACAGCTC TATCCTCGCC ACAAACATCT 240
 TCTGATCAAA CGGTCCCCTGC GCTGCCGTAA ATGTGAACAT AATTTGAGCA AGCCAGAATT 300
 TAACCCAACG TCAATCAAAT TCAAAATCCA GCTGGTCGCT GTCAATTATA TTCCAGAAGT 360
 GAGAATCATG TCAATTCCCA ACCTTCGCTA CATGAAGGAG AGCCAGGTCC TCCTGACTCT 420
 TACAAATCCA GTTGAGAACC TCACCCATGT GACTCTCTTC GAGTGTGAGG AGGGGGACCC 480
 TGATGATATC AACAGCACTG CTAAGGTGGT GGTGCCTCCC AAAGAGCTCG TTTTAGCTGG 540
 CAAGGATGCA GCAGCAGAGT ACGATGAGTT GGCAGAACCT CAAGACTTTC AGGACGATCC 600
 TGACATTATA GCCTTCAGAA AGGCCAACAA AGTGGGTATT TTCATCAAAG TTACACCACA 660

 GCGTGAGGAG GGTGAAGTGA CCGTGTGCTT CAAGATGAAG CATGATTTTA AAAACCTGGC 720
 AGCCCCCATT CGCCCCATTG AAGAAAGTGA CCAGGGAACA GAAGTCATCT GGCTCACCCA 780
 GCATGTGGAA CTTAGCTTGG GCCCACTTCT TCCTTAAAAG GTTCCACTGG AGGGCAGATC 840
 CCAAAGGACA GTATCACCGT AAACCTGCGT TAAAATGTGG AAGCTGCTGC TTCATTAGGC 900
 CTTGTTTATA ACGATGTACC CATGCACTAC GGAATTCTAT TGCTAAGAAA GTGGGAGCAT 960
 AGGCAAGGCA TTGGGAACAC AGGGTAGCTG CTGTTGCTCT TGCTCTCACC CCTGTTGACA 1020
 CCAGTAAGTC TGTGTCTCCC TCACTGAACC CTGCACGTTG AGTAACAGCA GCATAATTCC 1080
 ATCCTAGGAA AGGGGATGGG TGTTCCCTTG AATGGCATTG TATTTACCAC CTGAGAAACT 1140
 CTGTACTGTC TCTTGATCTG ATCTCACTAA GGATCACAAT GTCACAGATG AAACCTTAAAT 1200
 GATAACCCAA AGGTAGACCT GCTGTTAATG ATCCAGCATT GGTCACAATG TACCAACTGC 1260
 TTTCTGCATT CCGTTAAATA TCATCTAACA GTCTAAAACA TATCCCTTCA TTGCCATAAT 1320
 GGCTGCCATT TTGCCATAGA TTTCCATATA ACTGAAAAAC TGAATTGTCA CTTTATCTTT 1380
 AGTATCATGA TGATTGGAAG AACCTGTGAA GTTGTTAAGG CACTCTCATT TGCCCTCTTT 1440
 TTCTAAGTGA ATACAGGACA CGTATTAGTT GTTCTTAANN NNNNNNNNNN NNNNNNNNNN 1500
 NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNCAAGGG GGTAGCAGAT 1560
 TCCATTCTGT TTCAATATTG CCACAATACC CAGGGATTAA TGCTGCCACA GGGGGGCAAT 1620
 CTTTATTTGT CTTACTTCCT ACCCCTTCCC TGTTCTGCCT CTTTAACTCA GTTAAGTTGT 1680
 TCTGTTTGGG ACCTGGAAA GAACCCAAAG AAAACCTGAG TGGACAGGTT CATTTCTGGA 1740
 ATGCAGAAAA CATTTTAAAG GCTAGATTTT TAGAATATT TCAACTAGCA TTCTTTCCAT 1800
 TGATTTGAAG GGGAAATTAA CTATTATAAT CTCTTGAATC CAAAACCTGGA TATTAAGAAC 1860
 TTTCCCCCTT ACTAAGTTTA AGACTTTTGT CATGTGGTGA GTCAAATAAG ACCATTTTGA 1920
 TTGTAAACCA TAAAATAGTT CAGCAAGTAG CCCACAGTTC TGGCCTAACA GCAGACTTGC 1980
 TGTTTTCACT TGGTATCCTG GAGTTGGGTT GCTAACCTTA ATTTCTATGA TGTTTTCTAA 2040
 AATGAACTT GATAAAGTAG ACCACCAGCT GCACCGTGTT TTCTGTAAAA GTATTGTTAG 2100
 TAAGTGGCCA AGAGACTTGA GGAAAATACA GATTTTTTGT TTACCTTGGT CTGTGTTTAA 2160
 GTCTTAAAAA ATTAAAGATA ACATTATAAT GTAGAATACA GATGGGACAT AGTCCTTGTA 2220
 AGCTTCCCTT GAAAATGTTT TAAATATTTA GGAAGCTTTT AAAAGACACT AAATGTACT 2280
 CTAAAAGACA CTAAATTGTA CTAATTGTAC AAAGGTCAAG CCAATTTTAT GAAACAGTCC 2340
 TACAGAGTAA TATATGTGAT GCAGTGTAAG AAGGAAAATA CTCATCTCTA ACATTATGGT 2400
 AATAACATTT AGCCTCTTAG GAGTTGGAGC AGGGGGATGG GTAATTACAG ATTTGCAGAC 2460
 TATAGAAAGA GTTTCATTTT TTTGTGACCC CACAGAGTCT CAAATTTTTA TTTCACTACC 2520
 TGCTAGAGCC TACTGTGAAA TCACTGCTCC ATATTTGCCA GTGGAGGAAA TGGGCATAGA 2580
 GTAGAGAATA GCTTCATATG GTTTACACGT TTGCATAGAC TACACACATG TCATGCGTTT 2640
 ATGGCAGGTA GCTGGTATTT ATCCCCAAAG TAATAATGTT GAAGTATGGG TCTCATCATT 2700
 CCCATACACA GAAACACAAA ACACTTTGAT CATAAACTTT TTTCTTCAGA AGCCAAACTA 2760
 ACTTGCAGAA TAATAGAGCC ACTGGTTTAA TGTTTCCTCA AGATAGGTTT TAGTGTAAGC 2820
 TAGTATTCTG TGTGTTTCGTA GAAATGATTG AATACTGCA GCTGGTGAAT TAGGAATTGT 2880
 ATTTGTTGCC TTTTTTATAT TAGATGAGGT CAAAAAATTT TAATGCTAGT CAGTATGCAC 2940
 CACCAAGGA AAGTTAGATC CCATTAGCAC TTGAAACTAC AGCTTTGGAA ACTTAGGCTA 3000
 AGTTAATTTG GATTTGTTAC TTGATTCACC TACTGACCTT TTCTTTTGTT TGAAGTGCTT 3060
 ATCAGCATAA TGAGCTAAGT GTCATGCATA TTTGTGAAGA AACACCCCTT TTGGTCCCTT 3120
 TTGGGACAGA GAGGTACTCC TTGATCTTTA TGAATGACAG GTTACTGTTT TGCCTTATTG 3180
 CTTAACTTAA TGTAGTGAAA TAAAGCAGAC AAAGCTTG 3218

(2) INFORMATION ON SEQ ID NO. 392:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 750 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 392:

GTGAGGGACA GATGGACAGA ATGCAGAGGT ACATAGATGA GCTGAGGCTG ATCCAGCTCC 60
 CCTGAAATTC AGAGTGTTAA CTTTGTAGAC CCTGCACAAT CTCTTGGTGC TATCTAGCCA120
 TTACCCCAT TTTTTTTTA AAGGCCATCT GAAATTCAT TTGTCATGGT GGAAGCATT180
 TTGGATATGA TGCAGGAAAT CTCTTCCTGG AGTCAAAAGT TCCCAAGAGG TCCTGTATTT240
 TTAAGAAATG GAATTTATTT AAATAATATT TAAGCTTGTG CCCATGTTGG CCGGGCAACT300
 TTTTCAATG GTGCTTATTA GAAGAAGTTT TTTCATCTTG TCATTTTAAG AAAATAAAC360
 TGGAAATTGA ATATGGGTGG CATGATTGTA CCCTTTTAGT TCTCTTATTT TTCTACTCCT420
 CTGTCCCTCT ATAACATATGC CATACTATTA GATGCTGGTC CACTGAATGC TGAGATGATC480
 TGTTTTTTGG GGTTTTTTTT TTTTAAGAAA TATTTTCACT GGTTTTCTGT GACTCTCTAA540
 ACACTTCATC GAAACTAGGA AGACTGAATT ATGAGGGAAA CTATTTGGGA TTAGTGGCCA600
 GAAACGATGA AATCTTATAG ATCTTTTGAC AGTTTCTCTG TTTAGGGGGA GCCTAGGACT660
 GATATCCAAG TTTCTTCCAT ATCCAAGCTT CATTGGGGGA CCCCATTG GCTTTAACAG720
 GTGACCCGGC CCTCTTTACC GGGCTTCCAG 750

(2) INFORMATION ON SEQ ID NO. 393:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 546 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:

CACGAGGAGG CCGGGAGTGG AACCCCTCT TTTGAGAAGG TTGCCTGACT CAGAGACACA 60
 GAAACGGGTC CAGGGATGGG GAGAGATGTG GAGTGAGGGA AGGTTTGCAT TTGAGAAAGG120
 AAGTTCGAGA ACACACTGGG ACATTGTAAC ACATTGTAAC CATCTTCTGA TAGAAAGGTG180
 TTGGCCTCCT AATAATGGGA GGTCAGGGCC AGGTCCTCGG GCATAGGGAG AGGGTCCGGA240
 GAATGCTGCA GACCCCTGCC CACTGCCCAC GGTCTCCGCT CCCTGCACCT GCCTCTGATG300
 GTGCAGCTCT GATTCCGTGT CTCTCCTCAT TGCAGATTTA TGAAGGTGCC TACCATGTTT360
 TCCACAAGGA GCTTCCTGAA GTCACCAACT CCGTCTTCCA TGAAATAAAC ATGTGGGTCT420
 CTCAAAGGAC AGCCACGGCA GGAAGTGGT CCCCACCCTG AATGCATTGG CCGGTGCCCG480
 GCTCATGGTC TGGGGGATGC AGGCAGGGGA AGGGCAGAGA TGGCTTCTCA GATATGGCTT540

GCAAAA

546

(2) INFORMATION ON SEQ ID NO. 394:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 2453 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

10555-0000-0000

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 394:

CCTGACGGGA	CCAAGGCGGC	GGGAGTCTGC	GGTCGTTCC	TCGGCTGTGG	ACCGGGCGGC	60
ACGACGCGGT	GCAGGGTAAC	ATGGCGGATG	CGGAAGTAAT	TATTTTGCCA	AAGAAACATA	120
AGAAGAAAA	GGAGCGGAAG	TCATTGCCAG	AAGAAGATGT	AGCCGAAATA	CAACACGCTG	180
AAGAATTTTT	TATCAAACCT	GAATCCAAAG	TTGCTAAGTT	GGACACGTCT	CAGTGGCCCC	240
TTTTTGCTAAA	GAATTTTGAT	AAGCTGAATG	TAAGGACAAC	ACACTATACA	CCTCTTGCAT	300
GTGGTTCAA	TCCTCTGAAG	AGAGAGATTG	GGGACTATAT	CAGGACAGGT	TTCATTAATC	360
TTGACAAGCC	CTCTAACCCC	TCTTCCCATG	AGGTGGTAGC	CTGGATTCCA	CGGATACTTC	420
GGGTGGAGAA	GACAGGGCAC	AGTGGTACTC	TGGATCCCAA	GGTGACTGGT	TGTTAATCG	480
TGTGCATAGA	ACGAGGCCAT	CGCTTGGTGA	AGTCACAACA	GAGTGCAGGC	AAAGAGTATG	540
TGGGGATTGT	CCGGCTGCAC	AATGCTATTG	AAGGGGGGAC	CCAGCTTTCT	AGGGCCCTAG	600
AAACTCTGAC	AGGTGCCTTA	TTCCAGCGAC	CCCCACTTAT	TGCTGCAGTA	AAGAGGCAGC	660
TCCGAGTGAG	GACCATCTAC	GAGAGCAAAA	TGATTGAATA	CGATCCTGAA	AGAAGATTAG	720
GAATCTTTTG	GGTGAGTTGT	GAGGCTGGCA	CCTACATTCT	GACATTATGT	GTGCACAGTG	780
ATCAGTCACG	CGCACGAGGT	ACGTCAGATG	CAGGAGCTTC	GGAGGGTTCT	TTCTGGAGTC	840
ATGAGTGAAA	AGGACCACAT	GGTGACAATG	CATGATGTGC	TTGATGCTCA	GTGGCTGTAT	900
GATAACCACA	AGGATGAGAG	TTACCTGCGG	CGAGTTGTTT	ACCCTTTTGA	AAAGCTGTTG	960
ACATCTCATA	AACGGCTGGT	TATGAAAGAC	AGTGCAGTAA	ATGCCATTCT	CTATGGGGCC	1020
AAGATTATGC	TTCCAGGTGT	TCTTCGATAT	GAGGACGGCA	TTGAGGTCAA	TCAGGAGATT	1080
GTGGTTATCA	CCACCAAAGG	AGAAGCAATC	TGCATGGCTA	TTGCATTAAT	GACCACAGCG	1140
GTCATCTCTA	CCTGCGACCA	TGGTATAGTA	GCCAAGATCA	AGAGAGTGAT	CATGGAGAGA	1200
GACACTTACC	CTCGGAAGTG	GGGTTTAGGT	CCAAAGGCAA	GTCAGAAGAA	GCTGATGATC	1260
AAGCAGGGCC	TTCTGGACAA	GCATGGGAAG	CCCACAGACA	GCACACCTGC	CACCTGGAAG	1320
CAGGAGTATG	TTGACTACAG	TGAGTCTGCC	AAAAAAGAGG	TGGTTGCTGA	AGTGGTAAAA	1380
GCCCCGCAGG	TAGTTGCCGA	AGCAGCAAAA	ACTGCGAAGG	GAAGCGAGGA	GAGTGAGAGT	1440
GAAAGTGACG	AGACTCCTCC	AGCAGCTCCT	CAGTTGATCA	AGAAGGAAAA	GAAGAAGAGT	1500
AAGAAGGACA	AGAAGGCCAA	AGCTGGTCTG	GAGAGCGGGG	CCGAGCCTGG	AGATGGGGAC	1560
AGTGATACCA	CCAAGAAGAA	GAAAGAAGAG	AAGAAGGCAA	AAGAGGTAGA	ATTGGTTTCT	1620
GAGTAGTGAA	GGCCACTTGA	AGCTGGAGGA	GAAACTAAAG	CCTTATTGAG	AAAACATGTT	1680
ATAGATCCTT	TTGTTGCTGA	GAGAGTGGAA	CATAGTCTCT	AGACAGGGTG	AAGAGTTCTG	1740
GCACATTTTA	GCTGCTACTT	TGAGACCTCG	GTGATGTTAC	CTGGTGTGGT	CATCCCATCT	1800
TGTCCTGTTT	TAAGGATATG	GGTGGTGAAA	GATGAAAGAG	GCAGAGTTTA	TCCAATGAC	1860
TTCTCTGTTT	GAGTTGGGAA	GCCTCACCTT	CAGACCCAGT	AAGTGTCCGC	AGCTGTCTGC	1920
TAGTGGTTGT	CTTAACATCG	TAGTCCTAGT	TTGCATTTTT	TAAATCCCCT	CTGTTTAAAA	1980
GGTTTGTA	ACAAAAACAA	AAAACATAAGT	CTGCTCAGTG	AAATGCTGTA	GAACCCTAAA	2040
TAAGTGGTAG	AAGAGTGTC	CTGAATTTTG	TCTCTGAATT	CAGTATAACT	GAGTTTTGTC	2100
CATGCTGGTG	TCTGGGTAT	AGGCCTGATG	GGCCTGGTAG	TTTTCCATCT	TGTTCTGGCC	2160
TAGAGGTCAG	TCCTTTGCAC	TTCTCAAAG	CTTGTGTACA	GTGCTCACCT	AAATCCATCT	2220
GACTACTTGT	TCCTGTGCCC	TCTTGTTTTA	GGCCTCGTTT	ACTTTTAAAA	AATGAAATTG	2280
TTTATTTGCTG	GGAGAAGAAT	GTGTGAATTT	TTACTTATTA	AAGTCAACTT	GTTAAGTTTT	2340
TATGTATTTC	CTGTTGGGTT	TTCTTGTGTA	TCTCATGCTA	GCAGAGCAAA	AATTGTAAAA	2400
TATTTTGATT	AAAAATCTAG	GGACCTTTAT	GTCTATTG	AAAAAAAAAA	AAA	2453

(2) INFORMATION ON SEQ ID NO. 395:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2706 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 395:

GGGAGGAAGG AGACTACACC TGCTTTGCTG AAAATCAGGT CGGGAAGGAC GAGATGAGAG 60
 TCAGAGTCAA GGTGGTGACA GCGCCCGCCA CCATCCGAA CAAGACTTAC TTGGCGGTTC 120
 AGGTGCCCTA TGGAGACGTG GTCACGTAG CCTGTGAGGC CAAAGGAGAA CCCATGCCCA 180
 AGGTGACTTG GTTGTCCCCA ACCAACAAGG TGATCCCCAC CTCCTCTGAG AAGTATCAGA 240
 TATACCAAGA TGGCACTCTC CTTATTGAGA AAGCCCAGCG TTCTGACAGC GGCAACTACA 300
 CCTGCTTGGT CAGGAACAGC GCGGGAGAGG ATAGGAAGAC GGTGTGGATT CACGTCAACG 360
 TCCAGCCACC CAGATCAAC GGTAACCCCA ACCCCATCAC CACCGTGCGG GAGATAGCAG 420
 CCGGGGGCAG TCGGAAACTG ATTGAGTGCA AAGCTGAAGG CATCCCCACC CCGAGGGTGT 480
 TATGGGCTTT TCCCGAGGGT GTGGTTCTGC CAGCTCCATA CTATGGAAAC CGGATCACTG 540
 TCCATGGCAA CGGTTCCCTG GACATCAGGA GTTTGAGGAA GAGCGACTCC GTCCAGCTGG 600
 TATGCATGGC ACGCAACGAG GGAGGGGAGG CCAGGTTGAT CCTGCAGCTC ACTGTCCTGG 660
 AGCCCATGGA GAAACCCATC TTCCACGACC CGATCAGCGA GAAGATCACG GCCATGGCGG 720
 GGCCACAACA TTCAGCCTCA ACTGCTCTGC CGCGGGGACC CCGACACCCA GCCTGGTGTG 780
 GGTCTTCCC AATGGCACCG ATCTGCAGAG TGGACAGCAG CTGCAGCGCT TCTACCACAA 840
 GGCTGACGGC ATGCTACACA TTAGCGGTCT CTCCTCGGTG GACGCTGGGG CCTACCGCTG 900
 CGTGGCCCGC AATGCCGCTG GCCACACGGA GAGGCTGGTC TCCCTGAAGG TGGGACTGAA 960
 GCCAGAAGCA AACAAGCAGT ATCATAACCT GGTGAGCATC ATCAATGGTG AGACCCTGAA1020
 GCTCCCCCTG ACCCCTCCCG GGGCTGGGCA GGGACGTTTC TCCTGGACGC TCCCCAATGG1080
 CATGCATCTG GAGGGCCCCC AAACCCTGGG ACGCGTTTCT CTTCTGGACA ATGGCACCCCT1140
 CACGGTTTCT GAGGCCTCGG TGTTTGACAG GGGTACCTAT GTATGCAGGA TGGAGACGGA1200
 GTACGGCCCT TCGGTCACCA GCATCCCCGT GATTGTGATC GCCTATCCTC CCCGGATCAC1260
 CAGCGAGCCC ACCCCGGTCA TCTACACCCG GCCCGGGAAC ACCGTGAAAC TGAAGTGCAT1320
 GGCTATGGGG ATTCCCAAAG CTGACATCAC GTGGGAGTTA CCGGATAAGT CGCATCTGAA1380
 GGCAGGGGTT CAGGCTCGTC TGTATGGAAA CAGATTTCTT CACCCCCAGG GATCACTGAC1440

FBI/DOJ - DNA Lab

AAAAAG

(2) INFORMATION ON SEQ ID NO. 396:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2242 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 396:

CAGGCCGGTT CCGGCGAAGT TAAACCCTCG GAGCTGGCCT CGGACTGCTG GGGCGTTACC 60
 CCTTCGGCCA CCCCCGCTGA CCATGGCAGT GTTTCATGAC GAGGTGGAAA TCGAGGACTT 120
 CCAATATGAC GAGGACTCGG AGACGTATTT CTATCCCTGC CCATGTGGAG ATAACTTCTC 180
 CATCACCAAG GAAGATTTGG AGAATGGGA AGACGTGGCA ACGTGTCTTA GCTGCTCTCT 240
 CATTATAAAA GTGATTTATG ACAAAGATCA GTTTGTGTGT GGAGAAACAG TCCCAGCCCC 300
 TTCAGCCAAC AAAGAATTAG TTAAATGCTG AAGAAGCCTT CAGGAATCCA AATCCTGAAC 360
 ATTTGGAATG AGCCCAGATA GAAATATCGA ATGCAAAGCT ACTGGCTTCA CAGAGACAAC 420
 CATTATATGAT TTGCTGTTCT GTAAGAGTGT GGATTCTTTC TATCAACTGC TGATATCATC 480
 TTCAGGAAGC AAGTCCATAA CATGACATAT CTGGATTTTG TGCTTAGAAC CTTAAATTGG 540
 AAGCATTCTT AATTATGCAT CTAAATTTAA AAGAAGATAA TTTCAAAACA GTGCTTTCTT 600

 TCCCTTGGTT TCATCATTTT CATATCTTAA ACCAAATTAC TTCGGTATCT GACAACAGCA 660
 TCATCTACCT CAGTCATTAG GATTTCTTAA TAAAAAAGAG ATTGTATTTT TGAAGTGGTT 720
 ATTAAGATTA TTAAAAATTAG CCCTTCCTTT GAAATATGAC ATCAGCTTTG CTGTTCTAAA 780
 TTTAAAATTA GTTGCTTCAT CAGTACCACA CTTCCAGTTT CTATACCAAG CCAGTCTCCT 840
 CAGTTTTCCC ATTAGAATGG ACATGTTCTG TTCAGCGTGT CATTTCTGTA ATGCTTCATG 900
 CAGAGAGTTT GGTCATAGTA TTAAAGAGAA AATACAGTGA GGTCACAATG TCTCCAGAGC 960
 TAAAAGTTAG TGAACAAGAA AGAAAGTCCA AAATGAAGTG ATGAAAGAAT GAGGACTTTT1020
 CTTATATTCT GCATATTCCT TGGAAGTCAG GACAAGATGA AAAGAAAAAC ATCCAAAAGA1080
 AGTGAAATTG GTGACAGAAT GAGAGGAGCA AAGCATACCA GTGTAGTAAG TGAATGTTTT1140
 GAATGACTTT GCCAGGTCAG AGCAAGTAAT ATTTCTGTAT CTGAGTTTTT GTTTGTGTTT1200
 TGATAAGGCT AATGAAATTG CATTCCAGGT AGGGGTTAAC GTCAAATTTT CATGGCTGGT1260
 AGCTGTGCTT TTGGCATATC ACAGTGTTGT GTCACACTA CAAGGTAAAG CATCTACAGC1320
 GGAGAATGAG CTTGAAAATG AGAGACCTAT TGTGAATAAA TATGCCCATG AGAGCATATT1380
 TAATAAGCCT CTATAACATG CAGCCAAACC AGACATTCAC TCCTGCAGAG AAATGTTGCC1440
 CTGGAGAAAA AGAGATATAT AAAGATAGGC TATCACCTTT CTTTTGCTGC AGTACTAAGC1500
 ATAGCAAGAA ATTAGAATCA TTTACATTGG AAATTTGAAA ATTCCTTTTA TATACACAAC1560
 TTTACTGTGT ATAAATAAAA AATATTTATT AATGCAGTGA TGTCGTCAG GTTGTTTTAG1620
 GAATGGCTTC TGCAATTAGA AAAATAGCTT GCTAGAATGT AAATGTTCTG CTACTGGTAA1680
 ATGTACTGCA CACATTCATT GGACGTTAAA ACAAGTGAGT AGCCTTTTTT ACCTGCCAGC1740
 AGCATGGCTG TGTGCAGCCA CTAGGCTGAG ACAATAAATT ACCAAAAATT ATAATGTACC1800
 GAGCTGAAAA TGCTCAGTAC ATTATGTGGC ATATTCTGGA TGTGATGAGA AATCTCATTG1860
 CCATTTGGGA CACTGACATC CCAGAAGTAA TCCACAACCTG CTTTGCAAAA GCAAAGTGAC1920
 TGCTCAGATG AACAGAGCAG AGTACTCACT CACTATGGTG GCATCAGCTG CAAAGCGAAA1980
 TGAAGTGTCC CATGATCATG TTGATGGTTT TCTAGATACT GCCAACATGT TAGCTCTTTC2040
 TGATGCTGAT GAGTTTCAAA CACGAACAGA CACCTTGAT GTGGGTTTGC TAAGAACATA2100
 GAAGAACAGG AAGAAAAGTT GCCAGGGTTT AAAAATCCCA GGGAAAAAAG AAGCATAAAA2160
 AGCATTAGCA GTCAGTGACT GATGATAATG CTTGCAATAA TGGGGAATGG TTTTGTTC2220
 TAAACCCAA AATTTATTTT TT 2242

1995-04-04 09:44:55

(2) INFORMATION ON SEQ ID NO. 397:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1239 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:

TAGTCATCCT ACAAACATGT TTCTGTTACT TCCTAATATT AAAATAGCCA TTTTGGATTC 60
 CATATTTAAA GTGCTCATTT GAGTGAAATT CAAATTAGAA AGAAAGATAT TAAAATGCGC 120
 CTAACAAAAA CCTCTCTTTC AGAATCCCTA TTCCTTGAAT CTTGGGTTTG AACTGCTTAT 180
 TAAAGGCAGG CCTAAACTAA TTTGTGAGAA ATGAAGAAGT TTTAGTATAT AATTCTTTTA 240
 AAAAAATATCA ATTACGGCTG GGTGCGGTGG CTCAGGCCTG TAATGCCAGC ACTTTGGGAG 300

GCCAAGGCGG GTGATCACCT GAGGTCAGGA GTTCAAGACC AGCCTGGCCA ACATGGCAAA 360
 ACCCTGTCTC TACTAAAAAG TAAAAAAAT TAGCCGGGCA TGGTGGCTTG TGCTTGTAGT 420
 CCCACTTCAG TCTAAGTAGC TGGGACTACA GGCACGTGCC ACNAGGCCCA GCTAATGTGG 480
 GTGTTTTGTT AGAGATGAGG TAGGGCCATA TTGCCCAGGC TCGTCTTGAA CACCGGGGCT 540
 CAAGGAATCT GCCCATCTTC GCCTCCCAA GTTCTGAGAT AGCAGGTGTG AGTCANTCAT 600
 GCCCAGCCTC CTTGAAGTTT ACTAACAATT GGGATAACTG AGGGAAGAGA AGTGACAATT 660
 CCACTCAGTC TATTAGAGGT CTGGATATAA GGTAGNCCAC ACAATAACTC TAACNTTGAC 720
 TTCTAACCAT TCTATCTTAT TGNATTTGGA GGCTGTCTTC TGNCCAGATT TTTGTGGCT 780
 TGAGATGATA TTTTNCGAAC CCTTCTTTCA CTACCTTTCT TACCCTTAAT GTGNCCAAGC 840
 TTGAAACAGG ATTTGATTTT CTGAGCNTAC TTGTTGNGCC TTCTGTGCGT CANCCAAGTA 900
 ATCTGGTTCA TCTTTNCGTN CTCATTCATG TTATTTTCAA GTGAAACAAG ACATTTTGGG 960
 GGNTCAAGTC TCNTTTGGGN NTGTTTGTG TTTATGTATA TAAAAATGGA TTTTGNTGTT 1020
 CCCTTTCCNA TGTNAAGTAN CCAACTTATA TGGAACTCA CAATCATAAT GTAAAGAAGA 1080
 AATGAAANGC CTGGTGTATT GTACTTCAAG ATGCCTCCCT GNATGTATAG AATCNTCCTT 1140
 GTAAATAAAA TAATTGNCAT TGTATATCAG TCTTCCCATC AATATTAATT ATTAAATATT 1200
 TTAGAATTTT TAAATACCAA CTATAAAAAA AAAAAAAAAA 1239

19950901 09:54:55

(2) INFORMATION ON SEQ ID NO. 398:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1663 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:

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GAACCTGCTC TCCTGCTTGC TGGTCCCTTG ACGCAGAGAC CGTTGCCTCC CCCACAGCCG 60
TTTGACTGAA GGCTGCTCTG GAGACCTAGA GTAAACGGC TGATGGAAGT TGTGGGACCC 120
ACTTCCATTT CCTTCAGTCA TTAGAGGTGG AAGGGAGGGG TCTCCAAGTT TGGAGATTGA 180
GCAGATGAGG CTTGGGATGC CCCCTGCTTT GACTTCAGCC ATGGATGAGG AGTGGGATGG 240
CAGCAAGGTG GCTCCTGTGG CAGTGGAGTT GTTGCCAGAA ACAGTGGCCA GTTGTATCGC 300
CTATAAGACA GGGTAAGGTC TGAAGAGCTG AGCCTGTAAT TCTGCTGTAA TAATGATAGT 360
GCTCAAGAAG TGCCTTGAGT TGGTGTACAG TGCCATGGCC AGCAAGAATC CCAGATTTCA 420
GGTTTTATTA CAAAATGTAA GTGGTCACTT GGCATTGTTG TAGTACATGC ATGAGTTACC 480
TTTTTTCTCT ATGTCTGAGA ACTGTCAGAT TAAACAAGA TGGCAAAGAG ATCGTTAGAG 540
TGCACAACAA AATCACTATC CCATTAGACA CATCATCAAA AGCTTATTTT TATTCTTGCA 600
CTGGAAGAAT CGTAAGTCAA CTGTTTCTTG ACCATGGCAG TGTCTGGCT CCAAATGGTA 660
GTGATTCCAA ATAATGGTTC TGTTAACTT TTGGCAGAAA ATGCCAGCTC AGATATTTTG 720
AGATACTAAG GATTATCTTT GGACATGTAC TGCAGCTTCT TGTCTCTGTT TTGGATTACT 780
GGAATACCCA TGGGCCCTCT CAAGAGTGCT GGAATTCTAG GACATTAAGA TGATTGTCAG 840
TACATTAAAC TTTTCAATCC CATTATGCAA TCTTGTTTGT AAATGTAAAC TTCTAAAAAT 900
ATGGTTAATA ACATTCAACC TGTTTATTAC AACTTAAAAG GAACTTCAGT GAATTTGTTT 960

TTATTTTTTTT ACAAGATTTG TGAAGTGAAT ATCATGAACC ATGTTTTGAT ACCCCTTTTTT1020
CACGTTGTGC CAACGGAATA GGGTGTGTTGA TATTTCTTCA TATGTTAAGG AGATGCTTCA1080
AAATGTCAAT TGCTTTAAAC TTAAATTACC TCTCAAGAGA CCAAGGTACA TTTACCTCAT1140
TGTGTATATA ATGTTTAATA TTTGTCAGAG CATTCTCCAG GTTTGCAGTT TTATTTCTAT1200
AAAGTATGGG TATTATGTTG CTCAGTTACT CAAATGGTAC TGTATTGTTT ATATTTGTAC1260
CCCAAATAAC ATCGTCTGTA CTTTCTGTTT TCTGTATTGT ATTTGTGCAG GATTCTTTAG1320
GCTTTATCAG TGTAATCTCT GCCTTTTAAG ATATGTACAG AAAATGTCCA TATAAATTTT1380
CATTGAAGTC GAATGATACT GAGAAGCCTG TAAAGAGGAG AAAAAACAT AAGCTGTGTT1440
TCCCCATAAG TTTTTTTAAA TTGTATATTG TATTTGTAGT AATATTCCAA AAGAATGTAA1500
ATAGGAAATA GAAGAGTGAT GCTTATGTTA AGTCCTAACA CTACAGTAGA AGAATGGAAG1560
CAGTGCAAAAT AAATTACATT TTTCCCAAAA AAAAAAAAAA AAAAAAGTGT1620
ATACGTTGGA ATGAAAAAAA AAAAAAAAAA AAAAAAAA AAA

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1663

1999-01-01 14:55:00

(2) INFORMATION ON SEQ ID NO. 399:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2889 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:

GATCAGGCCT GTGGTCCAGC TCACTGCCAT TGAGATTCTA GCTTGGGGCT TAAGAAATAT 60
 GAAAAACTTC CAGATGGCTT CTATCACATC CCCCAGTCTT GTTGTGGAGT GTGGAGGAGA 120
 AAGGGTGGAA TCGGTGGTGA TCAAAAACCT TAAGAAGACA CCCAACTTTC CAAGTTCTGT 180
 TCTCTTCATG AAAGTGTTCT TGCCCAAGGA GGAATTGTAC ATGCCCCCAC TGGTGATCAA 240
 GGTCATCGAC CACAGGCAGT TTGGGCGGAA GCCTGTCGTC GGCCAGTGCA CCATCGAGCG 300
 CCTGGACCGC TTTCGCTGTG ACCCTTATGC AGGGAAAGAG GACATCGTCC CACAGCTCAA 360
 AGCCTCCCTG CTGTCTGCCC CACCATGCCG GGACATCGTT ATCGAAATGG AAGACACCAA 420
 ACCATTACTG GCTTCTAAGC TGACAGAAAA GGAGGAAGAA ATCGTGGACT GGTGGAGTAA 480
 ATTTGATGCT TCCTCAGGGG AACATGAAAA ATGCGGACAG TATATTCAGA AAGGCTATTC 540
 CAAGCTCAAG ATATATAATT GTGAACTAGA AAATGTAGCA GAATTTGAGG GCCTGACAGA 600
 CTTCTCAGAT ACGTTCAAGT TGTACCGAGG CAAGTCGGAT GAAAATGAAG ATCCTTCTGT 660
 GGTTGGAGAG TTTAAGGGCT CCTTTCGGAT CTACCCTCTG CCGGATGACC CCAGCGTGCC 720
 AGCCCCTCCC AGACAGTTTC GGGGAATTACC TGACAGCGTC CCACAGGAAT GCACGGTTAG 780
 GATTTACATT GTTCGAGGCT TAGAGCTCCA GCCCCAGGAC AACAATGGCC TGTGTGACCC 840
 TTACATAAAA ATAACACTGG GCAAAAAAGT CATTGAAGAC CGAGATCACT ACATTCCCAA 900
 CACTCTCAAC CCAGTCTTTG GCAGGATGTA CGAACTGAGC TGCTACTTAC CTCAAGAAAA 960
 AGACCTGAAA ATTTCTGTCT ATGATTATGA CACCTTTACC CGGGATGAAA AAGTAGGAGA1020
 AACAAATTATT GATCTGGAAA ACCGATTCCCT TTCCCGCTTT GGGTCCCACT GCGGCATACC1080
 AGAGGAGTAC TGTGTTTCTG GAGTCAATAC CTGGCGAGAT CAACTGAGAC CAACACAGCT1140
 GCTTCAAAAT GTCGCCAGAT TCAAAGGCTT CCCACAACCC ATCCTTTCCG AAGATGGGAG1200

"DDE" 0993

TAGAATCAGA TATGGAGGAC GAGACTACAG CTTGGATGAA TTTGAAGCCA AAAAAATCCT1260
 GCACCAGCAC CTCGGGGGCC CTGAAGAGCG GCTTGCTCTT CACATCCTCA GGACTCAGGG1320
 GCTGGTCCCT GAGCACGTGG AAACAAGGAC TTTGCACAGC ACCTTCCAGC CCAACATTC1380
 CCAGGGAAAA CTTCAGATGT GGGTGGATGT TTTCCCCAAG AGTTTGGGGC CACCAGGCC1440
 TCCTTTCAAC ATCACACCCC GGAAAGCCAA GAAATACTAC CTGCGTGTGA TCATCTGGAA1500
 CACCAAGGAC GTTATCTTGG ACGAGAAAAG CATCACAGGA GAGGAAATGA GTGACATCTA1560
 CGTCAAAGGC TGGATTCCCTG GCAATGAAGA AAACAAACAG AAAACAGATG TCCATTACAG1620
 ATCTTTGGAT GGTGAAGGGA ATTTTAACTG GCGATTTGTT TTCCCGTTTG ACTACCTTCC1680
 AGCCGAACAA CTCTGTATCG TTGCGAAAAA AGAGCATTTC TGGAGTATTG ACCAAACGGA1740
 ATTTGGAATC CCACCCAGGC TGATCATTCA GATATGGGAC AATGACAAGT TTTCTCTGGA1800
 TGACTACTTG GGTTCCTAG AACTTGACTT GCGTCACAG ATCATTCCCTG CAAAATCACC1860
 AGAGAAATGC AGGTTGGACA TGATTCCGGA CCTCAAAGCC ATGAACCCCC TTAAAGCCAA1920
 GACAGCCTCC CTCTTTGAGC AGAAGTCCAT GAAAGGATGG TGGCCATGCT ACGCAGAGAA1980
 AGATGGCGCC CGCGTAATGG CTGGGAAAGT GGAGATGACA TTGGAAATCC TCAACGAGAA2040
 GGAGGCCGAC GAGAGGCCAG CCGGGAAGGG GCGGGACGAA CCCAACATGA ACCCCAAGCT2100
 GGACTTACCA AATCGACCAG AAACCTCCTT CCTCTGGTTC ACCAACCCAT GCAAGACCAT2160
 GAAGTTCATC GTGTGGCGCC GCTTTAAGT GGTTCATCAT GGCTTGCTGT TCCTGCTTAT2220
 CCTGCTGCTC TTCGTGGCCG TGCTCCTCTA CTCTTTGCCG AACTATTTGT CAATGAAGAT2280
 TGTAAAGCCA AATGTGTAAC AAAGGCAAAG GCTTCATTTC AAGAGTCATC CAGCAATGAG2340
 AGAATCCTGC CTCTGTAGAC CAACATCCAG TGTGATTTTG TGTCTGAGAC CACACCCAG2400
 TAGCAGGTTA CGCCATGTCA CCGAGCCCCA TTGATTCCCA GAGGGTCTTA GTCCTGGAAA2460
 GTCAGGCCAA CAAGCAACGT TTGCATCATG TTATCTCTTA AGTATTAAAA GTTTTATTTT2520
 CTAAAGTTTA AATCATGTTT TTCAAAATAT TTTTCAAGGT GGCTGGTTCC ATTTAAAAAT2580
 CATCTTTTTA TATGTGCTT CGGTTCTAGA CTTCAGCTTT TGGAAATTGC TAAATAGAAT2640
 TCAAAAATCT CTGCATCCTG AGGTGATATA CTTCATATTT GTAATCAACT GAAAGAGCTG2700
 TGCATTATAA AATCAGTTAG AATAGTTAGA ACAATTCTTA TTTATGCCCC CAACCATTGC2760
 TATATTTTGT ATGGATGTCA TAAAAGTCTA TTTAACCTCT GTAATGAAAC TAAATAAAAA2820
 TGTTTCACCT TTAAACATA GGGGGGGTGG TCGGGGGGTC GGGAGGGGGG GGGGTGGTGT2880
 GGGGTGTGG

2889

(2) INFORMATION ON SEQ ID NO. 400:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1774 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

105525344 030607

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 400:

TGAAGGAAGT AACAAAAGTG GGAAACCCCT GATAAACCCC CTCAGGATCC TCATGGAGAA 60
 CTTACCTATC CAGGAGAAAT AGCAAAGGGG AAAGAACTGG CCCCCCCTG ATTCCGATGA 120
 CCCTCCCCCC GGGTCCCCTC CCCACAACAT GTGGGAATTC CCAGAAGATA AATTCAAGTT 180

 GCAATTTTTCAG TGGGGACATA GCCCAAACCC ATATCACTGG TGATGCCCCAC TTCTTCAGTA 240
 TTAGGGATTTC TCAGTCAGAA GAGACCCCTT GTGTGGCCTG AGTCCCCTCA GGAGGAAGGT 300
 GGACAACAGA GAAATGAGAG TTTTGATATT TTCTGAAAGA GGAACATGTG TTAGAGATGA 360
 AGAATCTTCC AAGGCTCATG CAGTTGCTTA GAATAATCAT TACTGTTATA TGAGAAACAT 420
 TTTAGTAATT TAATAAAAGG ATAATGTTTA TTTAAAAAAC CTGACTTTTC CAGAGTAATT 480
 TTGTTTTGCA CATTTCATGTT TATTGAAGTG GACTAATTTT TATAATGCAA ATCAGAGTTA 540
 AATATTAATA ATTGTGTAAA TACAATTGAC ATAGGAATTA CATTAAAATA TTAGGAAGAA 600
 ACAAGGACAA ATTTAGACCT TGAATCCGAA GAGATAAAGC TTACTTGACT TTCAATGGA 660
 GAGATGATGA AAACCCACTC ATTCAGTCTT TCAGAACAAA AAGACAGTCA TCTGATAAGA 720
 GTATGACATG GATGAAATGC CCTACAGGGG CTTGGACAT CTTTAATTTT TGCGATTATG 780
 TGAAAGAGGT GGACTTTACA GATAATGGAG CAGAAGCCAA CATTAGTAAA AGGAATCCCA 840
 ACTTCTTCCC ATAGAATTAG AAACATGTGA AAGTACAATA AACTTCTTGT TCAAATTACC 900
 AGCATCAGAG AGCTTCCCAT TTGCATCTAG ACCTTGAATT TATATTTATT GATCAAGTTC 960
 TAATTTGTAT GTATATTTTG TGCATATTCA CCAATAACAG TTAAAATTAA TTATGTGTTA1020
 TAGTTAATAT ATGCACCTAC CTTCTTCCGT TAGTGCATCA GTAAATGTGT TATTTTGTCA1080
 TTTTCCAAA GAGAGTGTTG TAGGTTTTC CTGTAGTTCT TCCTTTATAG CTTTTCTTCT1140
 GATAACCATG ACTTCAGGAG CTTTAAAACT ATCTATCTTG CATTGTGTGC TGGCGGAGAA1200
 CTAGCCATCA GCCTCCTGAA GCCTGCCATC ATTGTTAATT TGAGGACTGG GCTGTCTTGG1260
 GGCTCAGAAG GTAAAGAAGT ATTTGAGCAG ATGTGTGTGG GTGGCACTGG ATTCCACCCA1320
 ACTGCCAAGT TAGTATTGTT AGAGATTTC TTTTACAACA CAAAAATAAG CCTGTGTCAA1380
 AGATTTTAAA ATCATGGAAA GTTAAAAATCT AGAAAGACCT TAGAGAACCA GCCAACCAAC1440
 TCTCTCATTT TAAAGTGAA GGATTCATAG CACAGATTAC TTGCCTAAGA TCATCCAGGA1500
 ACGAAGACAA GAATCCAAAT GTACTTGGGG ACAAGAATTA GTCCCCAAAT TCAGTGTCT1560
 TCCTAGTATT AAACATTGCC CCTTTCGACA AATTTTGGAT TTCAATCTTG GTATATTTCA1620
 GTAAACCTGC TGATTTATTA GGTTACTGGG TAGATGACAT TAGAATGTAG ATAGCGTGCA1680
 CGCTATGATA GACTCTGCTA AGACATGTTC CCAGTGTCCA GCAGCAATGT AGATATGTGT1740
 GACAGTGGTC ATGTAGAAGT TATAAAGCAG AGTA 1774

(2) INFORMATION ON SEQ ID NO. 401:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3982 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 401:

CCCAAGTGTG	ATGCATTGTT	CTTCAGATGT	TGAAAAGAAA	GCAAAAAATA	CCTTCTAACT	60
TAAGACAGAA	TTTTTAACAA	AATGAGCAGT	AAAAGTCACA	TGAACCACTC	CAAAATCAGT	120
GCATTTTGCA	TATTTTTTAAA	CAAAGACAGC	TTGTTGAATA	CTGAGAAGAG	GAGTGCAAGG	180
AGAAGGTCTG	TACTAACAAA	GCCAAATTCC	TCAAGCTCTT	ACTGGACTCA	GTTCAGAGTG	240
GTGGGCCATT	AACCCCAACA	TGGAATTTTT	CCATATAAAT	CTCAATGAAT	TCCCTTTCAT	300
TTGAATAGGC	AAACCCAAAT	CCATGCAAGT	GTTTTTAAAGC	ACTGTCCTGT	CTTAATCTTA	360
CATGCTGAAA	GTCTTCATGG	TGATATGCAC	TATATTCAGT	ATACGTATGT	TTTCCTACTT	420
CTCTTGTA	ACTGTTGCAT	GATCCAACTT	CAGCAATGAA	TTGTGCCTAG	TGGAGAACCT	480
CTATAGATCT	TAAAAAATGA	ATTATTCTTT	AGCAGTGTAT	TACTCACATG	GGTGCAATCT	540
TTAGCCCCAG	GGAGGTCAAT	AATGTCCTTT	AAAGCCAGAA	GTCACATTTT	ACCAATATGC	600
ATTTATCATA	ATTGGTGCTT	AGGCTGTATA	TTCAAGCCTG	TTGTCTTAAC	ATTTTGTATA	660
AAAAAGAACA	ACAGAAATTA	TCTGTCATTT	GAGAAGTGGC	TTGACAATCA	TTTGAGCTTT	720
GAAGCAGTCA	CTGTGGTGTA	ATATGAATGC	TGTCCTAGTG	GTCATAGTAC	CAAGGGCAGG	780
TGCTCCCCCT	TGGTATAACT	GATTTCTTTT	TTAGTCTCT	ACTGCTAAAT	AAGTTAATTT	840
TGCATTTTGC	AGAAAGAAAC	ATTGATTGCT	AAATCTTTTT	GCTGCTGTGT	TTTGGTGTTT	900
TCATGTTTAC	TTGTTTTTATA	TTGACTGTTT	TAAGTATGAG	AGGCTTATAG	TGCCCTCCAT	960
TGTAAATCCA	TAGTCATCTT	TTTAAGCTTA	TTGTGTTTAA	GAAAGTAGCT	ATGTGTTAAA	1020
CAGAGGTGAT	GGCAGCCCTT	CCCTAGCACA	CTGGTGGAAG	AGACCCCTTA	AGAACCTGAC	1080
CCCAGTGAAT	GAAGCTGATG	CACAGGGAGC	ACCAAAGGAC	CTTCGTTAAG	TGATAATTGT	1140
CCTGGCCTCT	CAGCCATGAC	CGTTATGAGG	AAATATCCCC	CATTCGAACT	TAACAGATGC	1200
CTCCTCTCCA	AAGAGAATTA	AAATCGTAGC	TTGTACAGAT	CAAGAGAATA	TACTGGGCAG	1260
AATGAAGTAT	GTTTGTTTAT	TTTTCTTTAA	AAATAAAGGA	TTTTGGAAC	CTGGAGAGTA	1320
AGATAAGTAT	TAGAGTTTGC	CTCAACACAT	GTGAGGGCCA	AATAACCTGC	TAGCTAGGCA	1380
GTAATAAACT	CTGTTACAGA	AGAGAAAAAG	GGCCGGGCAC	AGTGGCTTAT	TCCTGTAATC	1440
CCAACACTGT	GGAAGGCCGA	GGCAGGAGGA	TCACTTGAGT	CCAGGAGTTT	GAAACCTACC	1500
TAGGCAACAT	GGTGAAACCT	TGTCCTTACC	AAAATAAAAA	TTAGCTGGGC	ATGGTGGCAC	1560
GTGCCTGTGG	TCCCAGCTAC	TTGGGAGGCT	GAGGTGGGAG	CCTGGGAGGT	CAAGGCTGCA	1620
GTGAGCCATG	ATCATGCCAC	TGCACTCCAT	CCTGGGTGAC	AGCAAGATCT	TGTAAAAAAA	1680
AAAAAAAAAAA	AAACCAGGAG	TGAAAAAGGA	AAGTAGAAGG	CAGCTGCTGG	CCTAGATGTT	1740
GGTTTGGGAA	TATTAGGTGA	TCCTGTTGAG	ATTCTGGATC	CAGAGCAATT	TCTTTAGCTT	1800
TTGACTTTGC	CAAAGTGTAG	ATAGCCTTTA	TCCAGCAGTA	TTTTAAGTGG	GGAATGCAAC	1860
GTGAGGCCAA	CTGAACAATT	CCCCCGTG	CTGCCCAGAT	AGTCACAGTC	AAGGTTGGAG	1920
AGTCTCCCTC	CAGCCAGTGA	CCTACCCAAA	CCTTTGTGTC	TGTAAAAATC	CTCTGGAAAT	1980
ACCGGGAAGC	CCAGTTTTCT	CACGTGGTTT	CTAGCTTCTT	CAGACTCAGC	CCAAATTAGG	2040
AAGTGCAGAA	GCACATGATG	GTGAAAAACC	TAGGATTTGG	CAGCCTTCCA	GAATGGTATG	2100

3982

(A) LENGTH: 1876 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 402:

CTCTTGGATC	CCCTGGACCA	CTGGGCATAC	TCGCCATCCT	CTTCCGGAGA	TCTGGGCAGT	60
TCGCCTGCAT	TAGAGCTCCT	GATTGAGATT	CAGTGCATCA	GCCGTGCTAT	CCATCACGTC	120
CACACCTCTG	TGCCCACTCT	TGAAGCTGTT	GGGAAATATT	CAGCAATGTC	CGCATCAACT	180
TGCAGAAGAA	TATAAATGAC	ATTTCAAGGA	TAGAAGATAC	CTGATTTTTT	TTCTTTTAA	240
TTTTCTGGT	GCCAATTTCA	AGTTCCAAGT	TGCTAATACA	GCAACAATTT	ATGAATTGAA	300
TTATCTTGGT	TGAAAAATAA	AAGATCACTT	TCTCAGTTTT	CATAAGTATT	ATGTCTCTTC	360
TGAGCTATTT	CATCTATTTT	TGGCAGTCTG	AATTTTTTAA	ACCCATTGTA	ATTTTTTTCC	420
TTACCTTTTT	ATTTGCATGT	GGATCAACCA	TCGCTTTATT	GGCTGAGATA	TGAACATATT	480
GTTGAAAGGT	AATTTGAGAG	AAATATGAAG	AAC TGAGGAG	GAAAAAATAA	AAAAAGAAAA	540
GAACCAACAA	CCTCAACTGC	CTACTCCAAA	ATGTTGGTCA	TTTTATGTTA	AGGGAAGAAT	600
TCCAGGGTAT	GGCCATGGAG	TGTACAAGTA	TGTGGGCAGA	TTTTCAGCAA	ACTCTTTTCC	660
CACTGTTTAA	GGAGTTAGTG	GATTACTGCC	ATTCACCTCA	TAATCCAGTA	GGATCCAGTG	720
ATCCTTACAA	GTTAGAAAAAC	ATAATCTTCT	GCCTTCTCAT	GATCCAAC TA	ATGCCTTACT	780
CTTCTTGAAA	TTTTAACCTA	TGATATTTTC	TGTGCCTGAA	TATTTGTTAT	GTAGATAACA	840
AGACCTCAGT	GCCTTCCTGT	TTTTCACATT	TTCTTTTTCA	AATAGGGTCT	AACTCAGCAA	900
CTCGCTTTAG	GTCAGCAGCC	TCCCTGAAGA	CCAAAATTAG	AATATCCATG	ACCTAGTTTT	960
CCATGCGTGT	TTCTGACTCT	GAGCTACAGA	GTCTGGTGAA	GCTCACTTCT	GGGCTTCATC	1020
TGGCAACATC	TTTATCCGTA	GTGGGTATGG	TTGACACTAG	CCCAATGAAA	TGAATTAAGG	1080
TGGACCAATA	GGGCTGAGCT	CTCTGTGGGC	TGGCAGTCTT	GGAAGCCAGC	TTTCCCTGCC	1140
TCTCATCAAC	TGAATGAGGT	CAGCATGTCT	ATTCAGCTTC	GTTTATTTTC	AGAATAATC	1200
ACGCTTTCTT	GAATCCAAAC	TAATCCATCA	CCGGGGTGGT	TTAGTGGGCTC	AACATTGTGT	1260
TCCCATTTCA	GCTGATCAGT	GGGCCCTCAA	GGAGGGGCTG	TAAAATGGAG	GCCATTGTGT	1320
GAGCCTATCA	GAGTTGCTGC	AAACCTGACC	CCTGCTCAGT	AAAGCACTTG	CAACCGTCTG	1380
TTATGCTGTG	ACACATGGCC	CCTCCCCCTG	CCAGGAGCTT	TGGACCTAAT	CCAAGCATCC	1440
CTTTGCCCAG	AAAGAAGATG	GGGGAGGAGG	CAGTAATAAA	AAGATTGAAG	TATTTTGCTG	1500
GAATAAGTTC	AAATTCTTCT	GAAC TCAAAC	TGAGGAATTT	CACCTGTAAA	CCTGAGTCGT	1560
ACAGAAAGCT	GCCTGGTATA	TCCAAAAGCT	TTTTATTCCCT	CCTGCTCATA	TTGTGATTCT	1620
GCCTTTGGGG	ACTTTTCTTA	AACCTTCAGT	TATGATTTTT	TTTTCATACA	CTTATTGGAA	1680
CTCTGCTTGA	TTTTGGCCTC	TCCAGTCTTT	CCTGACACTT	TAATTACCAA	CCTGTTACCT	1740
ACTTTGACTT	TTTGCAATTA	AAACAGGACA	CGGGGCAGGG	AGAAAAGGGT	TTTGTTTTTT	1800
AACCCCGGTG	TTTACCATAA	CGCGGGAAAA	GGTGGCCCAT	ACGGGGCAAA	CGTTTTTGAA	1860
AGGTTAAGGG	TATTTT					1876

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 403:

TCTGTTCTGT	GGACAAC TGT	TACTGTTCTT	CCGTGGCCAA	CCATGGCGGC	CACCAGCCCT	60
ACCCCCGCTC	CGGCCACTTT	CCCTGGACAG	TGCCCTCGCA	GGAGTACTCA	CACCCGCTCC	120
CGCCCACACC	CTCCGTCCCC	CAGTCCCTTC	CCAGCCTGGC	GGTCAGAGAC	TGGCTTGACG	180
CCTCCCAGCA	GCCCCGCCAC	CAGGATTTCT	ACAGGGTGTA	TGGGCAGCCG	TCCACCAAAC	240
ACTACGTGAC	GAGCTAACGC	CACGCAGGCG	GCGGGGCGCT	GGGGAATCTT	CCTCCCCAGC	300
CCCCGGGCTC	GGGAGTTATG	CATCCAGAGA	CCTGCCCTTC	TACCTTCTCT	GCCTCCCCTC	360
TTECTCATTC	CATTGCCCCA	GGTCTTTTCC	TTTTGGATT	TGTTTTGGTT	TTGGCTTTGT	420
TTTTGATTTT	TTTTTATTAT	GAATCTCCTG	GACGCAGAGG	TGACAGTGGG	AGCTGGCCTG	480
GGCCAGGACG	GCAGGTGGCC	CTGGAGATGG	GAAAGTGTCT	GTGTCGAGGC	GCTGAGCTCT	540
CTCTCTGTTT	CTCCTTTTTT	CCTCTACTCC	TTCCCCTTCA	CACCCCCGTG	GCTGGAAGGA	600
ACCTCGGCTT	CCCTGAAAGC	TTGGGGGTCC	CACCCTTCTT	ACCCACCCG	GGAGGAACGC	660
CCAGGGCCCC	GGGCTTTGTT	CTCCTCTTGT	TTTCTTTTTG	GGCAGTTTGA	TCACTGATCG	720
AGTAAGGAAT	GACCTTTTAA	TTGTGCGACT	TTTGTTTTTG	TTTTTTTAAA	TTTTTTTAAA	780
CCAAGAATGA	TTTCTCCTGC	TTCTTCTCC	TCACCATTCT	CCCAGACGGA	GTTCAAAGGC	840
CAC TTCTCAA	GCAGCTTTTG	GCACCTTCAG	CCTCAGAGTG	GAATCTTTTA	AAGACAGGAC	900
CCCTATGTCC	AGGAAAGGGG	AAAAGGAACT	TTGCCAATGA	TAGTGACCAC	AGCAAAAGCA	960
ATAAAATAAT	AAAATAAAAA	ACAATAGCAC	AGCCCTTGTT	GAGGTCAGCA	GGGAGGAGGG	1020
GCTGCCCGGA	GTTGGGTCTT	TGCCTGGATT	TTGACACAGC	AAC TTCTGT	AGTGAGCACT	1080
TTGTATGAAT	CGTGGAATTC	CTGTTCTCAA	GGCGCAGGTA	TTTATTCTGT	ATCTGTCTAG	1140
AGCACACACC	AAAATCCAAC	CTTCTAATAA	ACATGATGGC	GCAGTCCCAA	AAAAAAGAAA	1200
CAGAAGAAGA	AAAGGG					1216

(2) INFORMATION ON SEQ ID NO. 404:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 271 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 404:

RPRAGASIST LAGLSLKEGE DQKEIKIEPA QAVDEVEPLP EDYYTRPVNL TEVTTLQQR 60
 LQPDFQPVCA SQLYPRHKHL LIKRSRLCRK CEHNLSKPEF NPTSIKFKIQ LVAVNYIPEV120
 RIMSIPNLRY MKESQVLLTL TNPVENLTHV TLFECEEGDP DDINSTAKVV VPPKELVLAG180
 KDAAAEYDEL AEPQDFQDDP DIIAFRKANK VGFIKVTPO REEGEVTVCF KMKHDFKNLA240
 APIRPIEESD QGTEVIWLTQ HVLSLGP LL P 271

(2) INFORMATION ON SEQ ID NO. 405:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 133 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 405:

DLKQDQGKQK ICIFLKSLGH LLTILLQKTR CSWWSTLSSF ILENIIIEIKV SNPTPGYQVK 60
 TASLLLGQNC GLLAELFYGL QSKWSYLTHH MTKVLNLVRG KVLNIQFWIQ EIIIVNFPFK120
 SMERMLVENI LKI 133

(2) INFORMATION ON SEQ ID NO. 406:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 95 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 406:

RGPGHLLKPN GGPPMKLGYG RNLDISPRLP LNRETVKRSI RFHREFWPLIP NSFPHNSVFL60
VSMKCLES HR KPVKIFLKKK KPQKTDHLSI QWTSI 95

(2) INFORMATION ON SEQ ID NO. 407:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 55 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 407:

YLSLCPCWPG NFFQWCLLEE VFSSCHFVKI KLEIEYGWHD CTLLVLLFFY SSVPL 55

(2) INFORMATION ON SEQ ID NO. 408:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 127 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 408:

LQEAPCGEHG RHLHKSAMRR DTESELHHQR QVQGAETVGS GQGSAAFSGP SPYARGPGPD 60
LPLLGGQHL S IRRWFKCVTM SQCVLELPFS NANLPSLHIS PHPWTRFCVS ESGNLLKRGGL20
STPGLLV 127

(2) INFORMATION ON SEQ ID NO. 409:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 95 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 409:

KGVGLLIMGG QGQVLGHRER VRRMLQTPAH CPRSPLPAPA SDGAALIPCL SSLQIYEGAY60
HVLHKELPEV TNSVFHEINM WVSQRTATAG TASPP 95

(2) INFORMATION ON SEQ ID NO. 410:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 296 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 410:

VVRLAPTEFGH YVCTVISHAH EVRQMQLRR VRSGVMSEKD HMVTMHDVLD AQWLYDNHKD 60
ESYLRRVVYP LEKLLTSHKR LVMKDSAVNA ICYGAKIMLP GVLRYEDGIE VNQEIVVITT120
KGEAICMAIA LMTTAVISTC DHGIVAKIKR VIMERDTYPR KWGLGPKASQ KKLMIKQGLL180
DKHGKPTDST PATWKQYVD YSESAKKEVV AEVVKAPQVV AEAATAKGS EESESESDT240
PPAAPQLIKK EKKKSKKDKK AKAGLESAGE PGDGSDTTK KKKKKKKAKE VELVSE 296

20250313 09:44:55

(2) INFORMATION ON SEQ ID NO. 411:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 280 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

RDQGGGSLRS FPRLWTGRHD AVQGNMADAE VIILPKKHKK KKERKSLPEE DVAEIQHAE 60
 FFIKPESKVA KLDTSQWPLL LKNFDKLNVR TTHYTPLACG SNPLKREIGD YIRTGFIND120
 KPSNPSSHEV VAWIRRILRV EKTGHSGTLD PKVTGCLIVC IERATRLVKS QQSAGKEYVVG180
 IVRLHNAIEG GTQLSRALET LTGALFQRP LIAAVKQRLR VRTIYESKMI EYDPERRLGI240
 FWVSCEAGTY IRTLCVHSDQ SRARGTSDAG ASEGSFWSHE 280

(2) INFORMATION ON SEQ ID NO. 412:

- (i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 360 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 412:

RHPHPEGVMG FSRGCGSASS ILWKPDHCPW QRFPGHQEFE EERLRPAGMH GTQRGRGGQV 60
 DPAAHCPGAH GETHLPRPDQ REDHGHGGAT TFSLNCSAAG TPTPSLVWVL PNGTDLQSGQ120
 QLQRFYHKAD GMLHISGLSS VDAGAYRCVA RNAAGHTERL VSLKVGLKPE ANKQYHNLVS180
 IINGETLKL PCTPPGAGQGR FSWTL PNGMH LEGPQTLGRV SLLDNGTLTV REASVFDRGT240
 YVCRMETEY GPSVTSIPVIV IAYPPRITSE PTPVIYTRPG NTVKLN CMAM GIPKADITWE300
 LPDKSHLKAG VQARLYGNRF LHPQGS LTIQ HATQRDAGFY KCMAKNILGS DSKTTYIHVF360

"BIBL" 0000000000

(2) INFORMATION ON SEQ ID NO. 413:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 314 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 413:

EEGDYTCFAE	NQVGKDEMRV	RVKVVTPAT	IRNKTYLAVQ	VPYGDVVTVA	CEAKGEPMPK	60
VTWLSPTNKV	IPTSSEKYQI	YQDGTLLIQK	AQRSDSGNYT	CLVRNSAGED	RKTVWIHNVN	120
QPPKINGNPN	PITTVREIAA	GGSRKLIIECK	AEGIPTPRVL	WAFPEGVVLP	APYYGNRITV	180
HGNGSLDIRS	LRKSDSVQLV	CMARNEGGEA	RLILQLTVLE	PMEKPIFHDP	ISEKITAMAG	240
PQHSASTALP	RGPRHPAWCG	SFPMAPICRV	DSSCSASTTR	LTACYTLAVS	PRWTLGPTAA	300
WFAMPLATRR	GWSP					314

(2) INFORMATION ON SEQ ID NO. 414:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 109 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 414:

```
RPVPAKLNPR SWPRTAGALP LRPPPLTMAV FHDEVEIEDF QYDEDSETYF YPCPCGDNFS 60
ITKEDLENGE DVATCPSCSL IIKVIYDKDQ FVCGETVPAP SANKELVKC 109
```

(2) INFORMATION ON SEQ ID NO. 415:

- (i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 103 amino acids
(B) TYPE: Protein

(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 415:

YAKSTATSHG NLTLPPTWNA ISLALSKHKQ KLRYRNITCS DLAKSFKHST YYTGMLCSSH 60
SVTNFTSFGC FSFHLVLTSK EYAEYKKSPH SFITSFWTFF LVH 103

(2) INFORMATION ON SEQ ID NO. 416:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 144 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 416:

YTMXIIYFTR XILYXQGGIL KYNTPGXSFH LYIMIVSFHI SWXLXXGKGT XKSIFIYIKT 60
KXXQXRLXPP KCLVSLENNM NEXXKMNQIT WXTHRRXNKX AQEIKSCFKL GHIKGGKGSE120
RRVRKISSQA TKNLXRRQPP NXIR 144

(2) INFORMATION ON SEQ ID NO. 417:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 74 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

369 369 369

74

YPFFFTLCQRN RVFDISSYVK EMLQNVNCFK LKLPLKRPRY IYLVYIMFN ICQSILQVCS 60
FISIKYGYVV AQLLKWYCIY YICTPNNIVC TFCFLYCICA GFFRLYQCNL CLLRYVQKMS120
I 121

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 419:

```

FFFFFFFFS FQRIHFFFF FFFFGKNCVI YLHCFHSSTV VLGLNISITL LFPIYILLEY 60
YYKYNIQFKK TYGETQLMFF SPLYRLLSII RLQWKFIWTF SVHILKGRDY TDKA      114

```

(2) INFORMATION ON SEQ ID NO. 420:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 765 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:

```

IRPVVQLTAI EILAWGLRNM KNFQMASITS PSLVVECGGE RVESVVIKNL KKTPEFPSSV 60
LFMKVFLPKE ELYMPPLVIK VIDHRQFGRK PVVGQCTIER LDRFRCDPYA GKEDIVPQLK120
ASLLSAPPCR DIVIEMEDTK PLLASKLTEK EEEIVDWWSK FDASSGEHEK CGQYIQKGYS180
KLKIYNCELE NVAEFEGLTD FSDTFKLYRG KSDENEDPSV VGEFKGSFRI YPLPDDPSVP240
APPRQFRELP DSVPOECTVR IYIVRGLELQ PQDNNGLCDP YIKITLGKKV IEDRDHYIPN300
TLNPVFGRMY ELSCYLPQEK DLKISVYDYD TFTRDEKVGE TIIDLENRFL SRFGSHCGIP360
EEYCVSGVNT WRDQLRPTQL LQNVARFKGF PQPILSEDGS RIRYGGRDYS LDEFANKIL420
HQHLGAPEER LALHILRTQG LVPEHVETRT LHSTFQPNIS QGKLQMWVDV FPKSLGPPGP480
PFNITPRKAK KYLRLVIIWN TKDVILDEKS ITGEEMSDIY VKGWIPGNEE NKQKTDVHYR540
SLDGEENFNW REVFPFDYLP AEQLCIVAKK EHFWSIDQTE FRIPRLIIQ IWDNDKFSLD600
DYLGFLELDL RHTIIPAKSP EKCRDMIPD LKAMNPLKAK TASLFEQKSM KGWWPCYAEK660
DGARVMAGKV EMTLEILNEK EADERPAGKG RDEPNMNPCL DLPNRPETSF LWFTNPCKTM720
KFIVWRRFKW VIIGLLFLLI LLLFVAVLLY SLPNYLSMKI VKPNV 765

```

(2) INFORMATION ON SEQ ID NO. 421:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 289 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 421:

```

ETQVVIQRKL VIVPYLNDQP GWDSKFRLVN TPEMLFFRND TELFGWKVKV RENKSPVKIP 60
FTIQRSVMDI CFLFVFFIAR NPAFDVDVTH FLSCDAFLVQ DNVLGVPDDH TQVFLGFPG120
CDVERRAWWP QTLGENIHPH LKFSLGNVGL EGAVQSPCFH VLRDQPLSPE DVKSKPLFRG180
PEVLVQDFVG FKFIQAVVSS SISDSTPIFG KDGLWEAFES GDILKQLCWS QLISPGIDSR240
NTVLLWYAAV GPKAGKESVF QINNCFSYFF IPGKGVIID RNEQVFFLR 289

```

(2) INFORMATION ON SEQ ID NO. 422:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 422:

FFLYSFSSDN HDFSFKTIY LAFVSGGELA ISLLKPAIIV NLRTGLSWGGS EGKELFEQMC60
VGGTGFHPTA KLVILLEISFY NTKISLCQRF 90

(2) INFORMATION ON SEQ ID NO. 423:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 81 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423:

TPSGSSWRTY LSRNSKGER TGPPLIPMTL PPGPLPTTCG NSQKINSSCN FSGDIAQTHI60
TGDAHFFSIR DSQSEETPCV A 81

(2) INFORMATION ON SEQ ID NO. 424:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 129 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

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(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424:

ENWASRYFQS SFTEQKVWVG HWLEGDSPTL TVTIWAATGG IVQLASRCIP HLKVCWIKAI 60
YTLAKSKAKE IALDPESQQD HLIFFNQHLG QQLPSTFLFH SWFFFFFLLQ DLAVTQDGVQ120
WHDHGSLLQP 129

(2) INFORMATION ON SEQ ID NO. 425:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 122 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 425:

EAQKWDCIWT KNYKKVQSLV SRMQALALGD GSSLENPAAD SLFQRRSFER RVCYISFETV 60
TLWRLKDLVV SCFLKITGIW RPKPFWTDI SSKYFFIKVF EGDDFLDLWL DILGFDPYIV120
LS 122

(2) INFORMATION ON SEQ ID NO. 426:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 105 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 426:

RFKKSPQRQN HNMSRRNKKL LDIPGSFLYD SGLQVKFLSL SSEEFELIPA KYFNLFITAS 60
SPIFFLGKGM LGLGPKLLAG GGAMCHSITD GCKCFTEQGS GLQQL 105

133113 0432351

(2) INFORMATION ON SEQ ID NO. 427:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 96 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 427:

EKYEELRRKK KKKKRTNNLN CLLQNVGHFM LREEFQGMAM ECTSMWADFQ QTLFPLFKEL60
VDYCHSLHNP VGSSDPYKLE NIIFCLLMIQ LMPYSS 96

(2) INFORMATION ON SEQ ID NO. 428:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 151 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 428:

RKKGETEREL SASTQTLSHL QGHLPSWPRP APTVTSASRR FIIKKNQKQS QNQNKIQKEK 60
TWNGMRKRG GEEGRAGLW MHNSRARGLG RKIPQRPAAC VALARHVVEG GRLPIHPVEI120
LVAGLLGGVK PVSDRQAGKG LGDGGCGRER V 151

(2) INFORMATION ON SEQ ID NO. 429:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 150 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 429:

RHAGGGALGN LPPQPPGSGV MHPETCPSTF LASPLPHSIA PGLFLLDFVL VLALFLIFFY 60
YESPGRRGDS GSWPGPGRQV ALEMGKCLCR GAELSLCFSF FPLLLPLHTP VAGRNLGFPE120
SLGVPPFLPH PGGTPRAPGL FLLLSFWAV 150

(2) INFORMATION ON SEQ ID NO. 430:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 285 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 430:

SWRTGGWAYA GDRLENKTSV SVASWASSLN ARMDNRFATA FVIACVLSLI STIYMAASIG 60
TDFWYEURSP VQENSSDLNK SIWDEFISDE ADEKTYNDAL FRYNGTVGLW RRCITIPKNM120
HWYSPPERTE SFDVVTKCVS FTLTEQFMEK FVDPGNHNSG IDLLRXYLWR CQFLLPFVSL180
GLMCFGALIG LCACICRSY PTIATGILHL LAGLCTLGSV SCYVAGIELL HQKLELPDNV240
SGEFGWSFCL ACVSAPLQFM ASALFIWAH TNRKEYTLMK AYRVA 285

(2) INFORMATION ON SEQ ID NO. 431:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 116 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

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